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University of Southampton

Faculty of Arts and Humanities

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Exploring the Operationalisation of Music Through Spotify's Manufactured User Experiences

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Abstract

Faculty of Arts and Humanities

Department of Music

Doctor of Philosophy

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Music streaming platforms powered by recommendation technologies offer users round-the-clock-access to a seemingly limitless abundance of musical content. As of 2022, platforms such as Spotify are responsible for generating 67% of overall global recorded music revenue. These platforms use a combination of data, interface design, and personalisation features to promote playlists and manufacture music listening experiences which cover a range of human experiences. However, due to these technologies being in a relatively early stage, their influence and impact on users remains largely unexplored. Therefore, this thesis uses Spotify as a pilot research study, due to the platform's hundreds of millions of monthly active users and the recent national and legislative attention that it has received due to streaming's perceived economic and social impact.

This interdisciplinary thesis employs a mixed method approach that utilises both quantitative and qualitative data to explore how music is presented to Spotify users through the platform's interfaces, and how users' navigation and uses of the platform has changed their engagement practices and connection to music. Firstly, I utilise interface walkthroughs and retrieved Spotify metadata to break down the operationalisation of music. I examine the numerous aesthetic and technological methods used by Spotify to promote playlists and generate personalised recommendations which draw users into the microcosm of themed audio. Secondly, I interview a diverse mixture of Spotify users to gain an understanding of how listeners navigate Spotify, and the impact that their use has had on their views and treatment of music. From the analysis, it emerges that Spotify users actively embed music streaming within multiple aspects of their lives which include increasingly diverse social, professional, and functional environments. However, I also argue that the result of utilising Spotify as an on-demand, unlimited cataloguing utility has caused both positive and negative shifts in users' association and expectations of music. Therefore, this thesis contributes theoretically, methodologically, and demographically to a number of ongoing dialogues within the wider music streaming research landscape.

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Research Thesis: Declaration of Authorship

Print name: Allison Noble

Title of thesis: Exploring the Operationalisation of Music Through Spotify's Manufactured User Experiences.

I declare that this thesis and the work presented in it are my own and has been generated by me as the result of my own original research.

I confirm that:

1. This work was done wholly or mainly while in candidature for a research degree at this University;
2. Where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated;
3. Where I have consulted the published work of others, this is always clearly attributed;
4. Where I have quoted from the work of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work;
5. I have acknowledged all main sources of help;
6. Where the thesis is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself;
7. None of this work has been published before submission

Signature: Date: 01.02.2025

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Definitions and Abbreviations

API	Application Programming Interface: an interface designed to act as intermediary between two separate software applications. It is common for large online platforms to create official APIs for developers, allowing them to access data, create data visualisations, support analysis, and develop products using features of the organisation's code
A&R Manager	Artists and Repertoire Manager: an individual who is employed to aid musicians in marketing and campaign management
Black Box	originates from research within Science and Technology Studies (STS) and refers to a system "which no longer needs to be reconsidered, those things whose contents have become a matter of indifference" (Eriksson et al, 2019, p.7)
LIS	Library and Information Science: a field of academic research.
MAU.....	Monthly Active Users: users who utilise a service actively throughout a month.
SCOT	Social Construction of Technology theory: suggests that artefacts have many identities (rather than a single, core representation), which are created through the interpretation and interaction with other actors.
STS	Science and Technology Studies: a field of academic research.

Chapter 1 Introduction

The music industry has often acted as a reflection of the socio-political issues of the time, displaying specific trends as markers of definitive technological and social change. Aided through marketing, industrial development, and the permeation of subscription services into various cultural mediums, the evolutionary trajectory of musical digitisation has reached a new milestone of consumption – music streaming services (Spilker, 2018). This mode of listening takes the form of readily available collections of dematerialised, interoperable, streamlined interfaces – driven by personalisation technologies and complex recommender systems (Eriksson et al., 2019; Vonderau, 2017).

In the last two decades, music streaming services have steadily rose in global popularity and now reportedly hold a 67% share of the global music revenue (as recorded for 2022) (IFPI, 2023). In addition, the globe-spanning *Engaging with Music 2023* report from the International Federation of the Phonographic Industry (IFPI) states that there are more ways to listen to music than ever before, with the study revealing that on average people are using more than seven different methods to engage with music, and that consumption of music has risen to approximately 20.7 hours a week (IFPI, 2023).

Leading this monumental shift in music consumption and music personalisation, Spotify was launched in 2008, beginning its operations in Sweden and five other countries. As of 2022, Spotify's reach has spread to 237 countries and regions, with reports showing that the streaming platform hosted approximately 433 million Monthly Active Users (MAUs) in the second quarter of 2022 (Goldrick, 2022).

These combined figures present a huge shift in favour of the dematerialisation and streamlining of music consumption. However, these services which reduce cultural artefacts into cloud-based, computational data, creates both questions and complications ranging in complexity and consequential severity: including the ways in which music is operationalised, consumed, and created (Spilker, 2018; Eriksson et al., 2019; Vonderau, 2019).

Many of Spotify's features place responsibility on continual algorithmic input and functionality, which operates at a global scale, grouping music into differing themed playlists, which are then promoted to Spotify users on a regular basis. Due ongoing widespread use, it is therefore logical to suspect that musical listening and engagement is being influenced at the algorithmic level, consequently impacting users and wider stakeholders (Eriksson et al., 2019). This applied

use of recommendation systems also creates further question as to how individuals are being influenced on a regular basis from both personal and practical perspectives. These changes also spread further, influencing how wider stakeholders of the music industry interact through platforms like Spotify (British Phonographic Industry, 2020).

Awareness surrounding of the impact of music streaming is not a new phenomenon, with national and legislative attention previously being placed on platforms due to the perceived economic and social impact of their business structures (DCMS (a), 2021; DCMS (b), 2021; CMA, 2022). However, due to the relatively early age of these technologies, important areas of research into their socio-technical impact remain largely unexplored. Therefore, it is imperative that efforts are continued to examine the techniques and approaches of these influential services, whose personalised music recommendations influence millions of users' listening trajectories on a daily basis (Morris, 2020). In addition, it is vital that academic focus is directed towards the effects that music streaming usage is having on users, and those who work within the music industry (DCMS (a), 2021; CMA, 2022).

1.1 Aims

It is the aim of my thesis to explore the manufactured musical experience of Spotify: through understanding the presentation and computational treatment of music on the platform, and how the use of Spotify by its users is changing their perceptions and values of music. To do this successfully, my research explores the following objectives:

1. How is music operationalised and promoted on Spotify?
2. How do Spotify users navigate the platform to facilitate their music listening, and how have these uses impacted their views and treatment of music?

In order to capture these research aims which focus on two distinct parts of the Spotify musical experience, my research adopts an interdisciplinary approach, drawing literary insights and theoretical techniques from fields including musicology, computer science, sociology, and science and technology studies.

With regards to collecting evidence to support this study, I adopt a wide-spanning, mixed method approach in efforts to capture data that explore both facets of these research aims, focusing on two critical areas with which Spotify intersects: the entities of music and users. In addition to my analysis of the Spotify interface(s), where I explore the promotion of music and personalised listening to users, I use computationally retrieved Spotify data to explore the

presentation, labelling and operationalisation of music on Spotify. In addition to my use of computational data and analysis, I also explore the qualitative perspectives of twenty-three Spotify users who describe their experiences, platform practises, and what they consider to be the impacts of using Spotify. As a result of this research, my study contributes essential new perspectives, analysis and empirical stakeholder data to this developing field of music streaming research through a novel combination of methodological theory and research design.

The crucial importance of this research is rooted in the sprawling socio-technical reach of streaming platforms, and their continually growing influence within a number of industries and stakeholder experiences (Eriksson et al., 2019). Urgency for understanding also stems from the global nature of streaming and the influential impact that these technologies are having on the listening habits, tastes, and expectations of users who are streaming on a frequent basis. As music streaming platforms are still considered to be new technologies, it is crucial that understanding is formulated in order to recognise their full impact on future human behaviours and the livelihood of arts-based cultures.

1.1.1 Terminological Clarifications

Given the subjective nature of phrasing used in both the outlining of my research aims, and in my chosen research methods, the terms below have been highlighted and defined in order to provide clarity around their use and purpose within this research project.

1.1.1.1 Music/Tracks/Files

The terms ‘music’, ‘tracks’, or ‘files’ are used to reference the intangible audio files held on Spotify and other streaming platforms. These terms are used by me, referenced scholars, and by my interviewees. Due to the scope of my project, the focus is isolated to recorded musical tracks which have been uploaded to Spotify and/or other mentioned streaming platforms. However, it is notable that streaming platforms often provide a variety of audio content, including audio books and podcasts.

1.1.1.2 Value

It is important to highlight that ‘value’ can hold different meanings due to its broad utilisations. Therefore, when I discuss how users ‘value’ music within this project, the following broad characteristics are considered in relation to three areas:

- **Personal Value** relates to the emotional/sentimental aspects according to the user.
- **Economical Value** reflects the monetary aspects according to the user.
- **Practical Value** describes the aspects of lifestyle and accessibility for the user.

1.1.1.3 Interviewees/Users/Participants

The individuals involved within my research project are intermittently referred to as interviewees, participants, and users with context applied. Through an ethically driven process of recruitment, these individuals have consented to take part in semi-structured interviews which explore their streaming consumption and navigation of Spotify.

1.2 Research Contributions

My research contributes to the ongoing study of music streaming in several fundamental ways. Firstly, my research provides new analytical insights which support highlighted pre-existing academic studies of music streaming platforms: adding to research method design, pre-existing theoretical perspectives, and the crucial broadening of demographic diversity in qualitative research (Johansson et al., 2017; Hagen, 2016; Spilker, 2018; Gioia, 2019).

Additionally, my study has adopted novel fusions in its methodological, theoretical and data approaches, resulting in the fundamental contributions of original evidenced perspectives, addressing both individual and collective standpoints on the impact of Spotify within the daily lives and experiences of consumers and musicians.

The following section describes these original and supporting contributions in further detail.

1.2.1 Methodology

Methodologically, my research adopts a mixed-method approach, utilising a novel fusion of data types, including:

- The usage of platform walk-throughs which explored the presentational facets of Spotify's interface, key pages and promotional functions.
- A qualitative collection of twenty-three diverse Spotify user interviews.
- An extensive collection of API-retrieved data:
 - 1397 thematically categorised playlists.

- Three separate lists of closely analysed music metrics, artists data, and genre-seed metadata.

The original fusion of these distinct qualitative and quantitative data types within this wide-ranging study has allowed me to formulate essential new analytical, evidenced perspectives surrounding the different stages of user engagement in the musical experience provided by Spotify, and the resulting impact that these habitual practices are having on users of the platform. Additionally, as a result of the computational data fused into this mixed method approach, I was able to analyse fundamental connections between the users' recorded experiences and the underpinning manufactured forces driving the engagement.

The new analytical perspectives gained from the fusions within this wide-arching work are also a valuable original contribution towards the ongoing study of music streaming platforms: providing both evidenced clarity and support to pre-existing work regarding the operational forces of platforms and the stakeholders who utilise them. In addition this work has enabled the contribution of valuable novel perspectives around the consequential impact on the everyday engagement and behaviours of music listeners. (Eriksson et al., 2019; Spilker, 2018; Johansson et al., 2017; Hracs and Webster, 2020; Gioia, 2019; Morris, 2020).

1.2.1.1 Theoretical

In this research, my study has consistently drawn insights through a unique inclusion of three distinct theories (in varying degrees). SCOT, technological determinism, and Ted Gioia's musical interpretation of 'the smooth' (Gioia, 2019). I utilised SCOT and technological determinism consistently throughout this study in a comparative manner in order to balance insights around Spotify's socio-technical impact, and mainly concentrated Gioia's theoretical interpretations on sections of this thesis which focused on the operationalisation of music (Chapter 4) (ibid.).

By consistently framing the empirical results of my research through the lenses of two contrasting theories (SCOT and technological determinism), I have presented a novel blend of theoretical insight within the field of music streaming study: providing new analysis to the societal and technological motivations of music streaming and showcasing the many social identities which can be placed on Spotify as a service. While these theories have been compared previously in historic studies, this has not been done within this interdisciplinary area of music research (Dusek, 2006; Hallström, 2022). Therefore, my research adds a new

rudimentary understanding to the existence and impact of music streaming, as comprehended through Spotify's platform influence, actions and user engagement.

Additionally, framing my findings and results (from analysing Spotify data) against Gioia's previous contextualisation of 'the smooth' will provide a new level of depth in perspective around the importance of undertaken granular processes within the process of operationalising music on Spotify, and how tracks are transformed into entities which are suitable for mass consumption.

1.2.1.2 Addition to Qualitative Research Design in Music Streaming

By designing my semi-structured interviews around the Spotify interface walk-throughs and API-retrieved findings featured in Chapter 4, I was able to group the interview questions into three stages surrounding environmental context, platform navigation, and music interaction (as shown in Appendix A). In doing this, I created an original set of interview questions which query the music-related experiences and opinions of Spotify users which could be utilised as a tool within the future qualitative study of any music streaming platform. Due to the semi-structured nature and focus on user-specific perspectives, this list of foundational questions also enabled opportunities for notable tangents in discourse to arise. This resulted in contributions to the original perspectives in this study surrounding musician perspectives, consequentially contributing to the present gap in academic study between the viewpoints of users and musicians in the field of music streaming research.

1.2.1.3 Contribution Towards Streaming Research Demographics

Researchers have previously highlighted age bias in music streaming research, specifically towards the perspectives of younger teenage and student level cohorts as they are more likely to adopt newer technologies first (Johansson et al. 2017). However, my work has actively contributed to crucial broadening of the demographic of participants within this research space, through the diverse collection of interviewees who participated in my study. The qualitative strand of my research features semi-structured interviews with data subjects from an assortment of occupations, and age brackets (with 20 being the lowest age in this study). Therefore, my study has actively responded to this challenge of bias by intentionally including the viewpoints of groups and generations who are less vocal and/or visible in streaming studies.

1.2.2 Addition of New Perspectives

My exploration – which combines Spotify’s processes of music operationalisation, and its users’ practices – fuses siloed organisational and empirical perspectives around how music is treated from both technical and user perceptions through one study. As a result, this novel research creates further opportunity for exploration in these spaces as fluid and intersectional in their impact, supporting work which has already attempted this fluidity (Gioia, 2019; Morris, 2020; Spilker, 2018; Eriksson, 2019; Johansson et al., 2017; Salo et al., 2013; Wikström, 2020; Prey, 2020).

My novel evidence-based analysis which addresses the shifting balance between society, creative and cultural media, and the priority of convenience contributes to wider ongoing discussions in Humanities and Web Science-based research. In doing so, my novel methodological approach explores the growing presence and impact of technology on music and its modern issues around topics such as originality and autonomy within culture, technology and musical experiences (Hagen, 2016; Eriksson, 2020; DCMS (a), 2021; Jansson, 2021). As a result, I have provided a new evidence-based perspective surrounding how music streaming has become embedded in users’ everyday lives – consequently shaping music into an everyday utility in the modern streaming era and impacting the musical engagement and perceptions of those who use these services.

Additionally, the evidence from my qualitative work has created an essential collection of grounded empirical insights into both the uptake and rejection of various personalisation and musical features which Spotify offers. These evidenced insights are impactful in contributing to both academic and commercial settings, in the ways that they actively challenge the exaggerated success of music streaming features and introduce new understandings of user behaviours and identities within these services. In addition, these novel perspectives from this work provide crucial understanding around true users’ needs in musical engagement, demonstrating their needs for self-direction, control, flexibility, and autonomy in music streaming.

1.2.3 The Introduction of Diversity in Stakeholder Experience

Through this utilisation of diverse datasets, my study briefly introduces and merges relevant qualitative experiences to explore an issue which is often discussed separately in music streaming research: the distinct division in experience and feelings of control between

consumers and musicians who use streaming platforms. By merging both of these musicians' and users' experiences, my research importantly contributes to closing the academic gap between stakeholder expectations and issues through my original contributions, additionally supporting work which has already attempted this (Skoro, 2021; Morris, 2020; Spilker, 2018; Eriksson, 2019; Johansson et al., 2017; Salo et al., 2013; Wikström, 2020; Prey, 2020). In addition to this, by empirically conveying the reality of independent musicians' experiences in the streaming landscape, my work also vitally contributes to the ongoing discussions in the policy landscape surrounding the economics of music streaming (DCMS (a), 2021; DCMS (b), 2021; CMA 2022).

From this section, I have established that the novel methods and evidence-based conclusions within my thesis fundamentally contribute to ongoing and important explorations within the field of music streaming research, pertaining to the uptake, use and impact of music streaming platforms like Spotify on various stakeholders. Subsequently, my research and its essential offerings contribute to wider discussions being held around music streaming at the intersection of digital musicology, sociology, computer science and even national policy.

1.3 Thesis Outline

In order to successfully address the aforementioned aims of this interdisciplinary research, my study addresses a number of key areas and undertakes essential actions as described in the following section.

1.3.1 Understanding the Research Landscape

It was important to my research to assess the differing landscapes which are related to or affected by music streaming platforms. Firstly, I begin by examining the ever-shifting state of the music industry structures (as understood by music scholars) and how streaming has changed the dynamic between certain stakeholders within the industry (Burnett, 1989; Leyshon, 2001; Skoro, 2021). I then investigate how streaming has failed to completely replace our affinity for physical collections and why this is, which then segues into the positioning of music genre and its importance in the process of music categorisation, including a thorough understanding of what is actually meant when discussing the concepts of classification, categorisation and collecting (Hagen, 2015; Jacob, 2004). I then shift this literature review into a more modernistic focus, looking at what researchers currently conclude about music streaming platforms, and how their presence is tied in with the virtual music audience who

differ greatly from traditional audiences, and play a large part in the distribution and promotion of intangible music through interconnected websites and social media platforms (Rambarran, 2021; Eriksson et al., 2019; Spilker, 2018; Johansson et al., 2017; Morris, 2020; Morris and Powers, 2015; Hagen 2016; Vonderau, 2019). I then introduce an examination of the constrasting theories of social construction of technology and technological determinism, and lastly conclude this chapter by highlighting the research gaps which my study aims to build on. (Bijker, 2008; Hallström, 2022).

1.3.2 Outlining Methodological Aims and Research Practices

In Chapter 3, I present my methodological approach and research design for this study. I begin by stating my research aims based around the knowledge gaps raised in Chapter 2. I explain my reasoning for these specific aims, further clarifying the position of power that music streaming platforms hold and the unknown impact that users face. I outline my intentions and motivations to continually incorporate the perspectives of both SCOT theory, technological determinism and Gioia's musical interpretation of 'the smooth' theory throughout the chapters of this study – reflecting on how these music streaming platforms feature both human and non-human interactions, which consequently shape user experiences. I finish by clarifying on this research's design and each of the techniques used in my mixed-method approach to form my evidence base, including the collection of playlist and separate music metadata through an Application Programming Interface (API), a walk-through of the Spotify interface(s), and semi-structured interviews with a recruited assortment of twenty-three participants who utilised Spotify for work and/or leisure purposes.

1.3.3 Exploring the Spotify Interface and the Manufactured Experience

In Chapter 4, I begin by introducing the Spotify environment through the analysis of an aforementioned interface walkthrough. In this brief walkthrough, I examine the crucial concept of the Spotify playlist and how it is the key to the platform's fluidity, recommendation systems and user interactions. I discuss the features of the platform and how they have been interrogated both positively and negatively through different scholastic theories, such as Gioia's (2019) idea of 'the smooth'.

I also provide response to the Spotify interface(s) and present the first pieces of empirical qualitative research which highlights interviewees varying attitudes and opinions around the platform's features, and how they feel about Spotify's methods of promotion and

recommendations of different algorithmic playlists. These interviewee opinions raise discussion around Spotify's promotion tactics and the growing expectations and demands of users regarding streaming platforms in the 21st century.

1.3.3.1 Understanding Spotify's Diverse Operationalisation of Music

Within Chapter 4, I also present the retrieval process and resulting findings from my use of the Spotify API. The key steps to code and successfully run the API are explained and displayed, alongside the outlining of the process used when sifting and sorting the retrieved 1397 playlists into twenty thematic categories. I then go on to discuss these playlists and the micro-themes provided by Spotify playlists, explaining how these playlists are designed to fit into every scenario of a user's life and what this looks like in contrast to previous modes of music promotion (Morris, 2020). I also provide analytical reflection on the status of music genre as a categorising agent on Spotify.

1.3.4 Investigating User Navigation of Spotify in the Everyday Life

The main analytical focus of Chapter 5 is the presented findings from the twenty-three user interviews, which have been divided into sections in order to reflect the different stages of engagement within the manufactured music streaming experience. In this chapter, I explore user motivations and platform commitments further by asking participants why they specifically chose Spotify and their reasonings behind their subscription of choice, aiding in understanding how these users view the platform in terms of economic, practical, and personal value. This chapter also focuses heavily on the spectrum of different practices in which users undertake when streaming and reflects on ways in which Spotify is embedded into the everyday life of the user. In doing this, I analyse the answers given by users regarding their use of Spotify, and how the streaming platform fits into their daily lives. I also explore contextual information: including what environments the users stream in, how frequently they utilise the platform, and how they interact with music in these moments. I also discuss concepts such as background noise and music's evolved intention in the 21st century (Rambarran, 2021).

In order to understand user interaction to its fullest degree, I also focus on the specific actions of users with regards to music categorisation. This includes examination of three different effort levels of music categorisation activity amongst users: 'no categorisation', 'some categorisation', and 'active categorisation' highlighting the differences in action between each group, alongside the provision of interviewee practices as examples within the context of

curation (Jacob, 2004; Zhong et al., 2013; Liu et al., 2016). Lastly, through the comparative lenses of Social Construction of Technology (SCOT) and technological determinism, I investigate and analyse actions of users who utilise the platform in ways that align with the concept of user ‘hacking’, where they hijack the features on Spotify to enhance their own experiences, raising discussion around user autonomy on streaming platforms and Spotify’s rebellious users.

1.3.5 Understanding User Impact, Awareness, and Commitment

To explore how the use of Spotify was impacting users’ listening experiences, it was essential to my research to also understand how interviewees felt around the broader issues which accompany music streaming. Therefore, in Chapter 6 I question interviewees about their awareness of their use of Spotify and wider streaming topics. This includes the examination of participants’ perceived changes to their listening habits, and how their opinions of music and its inherent value have changed, leading to dialogue around specific user habits tied to the privilege of having access to abundant musical choice. Users are also questioned on their awareness of broader issues around the existence of streaming and its impact on other stakeholders, in addition to questions around their commitment to using Spotify.

The final section of Chapter 6 is dedicated to the sub-group of users in my interviewee pool who identify as artists. This empirical section provides a brief qualitative overview into the experiences and issues faced by artists who aim to promote their work, and how these issues actively contrast with the experiences of users who are not musicians. I reflect on these experiences and compare them to the answers given by non-musician users in previous chapters, highlighting the connections between artist experiences to both positive and negative consequences of abundant access through music streaming. This chapter concludes by highlighting the importance of future research in this area.

1.3.6 Synthesis of Findings and Conclusions

I summarise results and synthesise the rich findings brought about by this research by reflecting on my research aims of this study and interpreting my findings against each of these objectives.

In doing so, I highlight key themes which have arisen throughout the study: including the changing expectations and status of music supply and demand in the modern era of technology, the musical cost of operational convenience that is now required by both Spotify

and users' need for functionality, the attempts made by Spotify to capture every facet of the human experience, and the differences in experience between artists who create and those who choose to consume. By reflecting on these themes, my research forms insights which relate to a larger issue surrounding the music industry and the fostered attitudes around consumption, convenience, and attention.

I then bring this thesis to a close by presenting my conclusions in relation to the original research questions: addressing how music is operationalised through the Spotify interface; the permeation of playlists; and how this affects the concept of music as we know, in addition to how users' listening methods and practises have evolved around the offerings of Spotify, and how this in turn has impacted their connections and understanding of music. Following this, I provide a documented recap of how my study has contributed to original research through theory and method.

1.3.7 Outlook

In addition to reflection of this study and its findings, I propose a number of important research topics which could not be fully developed within this work due to scoping parameters. This results in the identification and brief discussion of these topics, highlighting the importance of their exploration to the wider research landscape.

1.3.8 Closing Remarks

Finally, I provide closing remarks on broader inferences which have arisen as a result, including topics such as user commitments; the everyday impact of streaming; and the future of music and music creation.

Chapter 2 Exploring Music Streaming and the Wider Musical Landscape

As mentioned in Chapter 1, my study addresses a number of key areas. The interwoven topics of music streaming platforms, their operational design, and their impact upon users creates a study which is complicated with regard to its contextualisation. Therefore, my research includes a significant collection of variables which must also be considered in the practice of music listening. There are human stakeholders: including the users, the creators and artists, music industry officials, and those whose employment includes working closely with the Spotify platform. From a technological angle, I also incorporate the facilitators of digital music practices: in this case, Spotify's interfaces, its algorithmic impact, and the interweaved nature of digital platforms. In addition, there are also the contending issues of musical creativity and cultural influence: such as musical genre, music categorisation and music industry impact.

A primary challenge in this interdisciplinary study is the negotiation of numerous boundaries and research themes between various disciplines. It is clear that the disciplinary reach is vast – with relations extending over a number of fields to varying degrees. These features play an important role in establishing the foundations of this research. Therefore, by not restricting the evidence base of this review, my thesis creates potential for richer research insights.

Thus, the following literature review directs readers through themes and narratives found to originate from multiple relevant fields: including musicology, sociology, computer science, communications research, and science and technology studies (STS) – a broadness which appropriately reflects the comprehensive nature of my research questions. The research themes found in this section include but are not limited to evolution of technologies, categorisation and classification, interdisciplinary perceptions of genre, music and capitalism, socio-technical impacts, and music streaming services. Throughout this project, these services are referred to as 'music streaming platforms', or 'platforms'.

2.1 Evolution of Music Industry Structures

As a strand of my research aims to explore the impact of Spotify usage upon users and music industry stakeholders, it is important to understand the everchanging dimensions of the music industry landscape, whose infrastructure seems to shift continually around the parameters of music technology, creativity, and generic access, bringing about dramatic change with each

advancement. The music industry encompasses many stakeholders who each play a role in embodying the production, distribution, and maintenance of musical culture. Scholars have offered various visual models throughout the years in attempts to map this phenomenon and make sense of the many musical networks which function internally. The first model (as seen in Figure 1) from Burnett and Weber (1989) depicts a monolithic recording industry, separated into two layers of production and consumption which are joined by characteristically 'weak' links. The production system is based around the elements of recording companies, who are represented as the centre stage process of the industry. The production system is also characterised as multifaceted, with firm connections between the various elements, alongside overlapping structures, functions, and processes. Meanwhile, the consumption system is described as disjointed, only blending on occasion with production. This depiction is reflected in comments from Wikström (2009) which describe the relations between producers, marketing, artists, and advertisers to have been much stronger than the relationships between producers and consumers. It is also clear from this 1981 interpretation that those in charge of aesthetic production (artists, engineers, songwriters, and musicians) were purposefully separated from systems of consumption, with a number of barriers between creatives and their supporters.

This breakdown of the model suggests a clear influence of the technologies and attitudes present towards music during this era: music mediums were less portable with the Compact Disk (CD) first debuting in 1982. This echoes Gay et al.'s (2013) comments on the conceptions of what objects and acts belonged in the public and private spheres – music listening being inherently private with the exception of musical concerts. These comments are reflected in the second model of examination: Leyshon's (2001) analysis of musical networks. As shown in Figure 1, Leyshon's (ibid.) model portrayed the music industry as a more modern mass of overlapping musical networks, and is broken into four sections: creativity, reproduction, distribution, and consumption. The purpose of each section is described by Leyshon (ibid.) as follows:

- Creativity network: represents the system in which music is created through acts such as performance, composition, production, song writing, or sound engineering.
- Reproduction network: focuses on the licensing and recording processes of music.
- Distribution network: centres around processes of distribution, manufacture, and promotion.

- Consumption network: is representative of the actions of consuming music (e.g., listening to, purchasing, reading about, or collecting music).

Arguing that this approach made it easier to address developments within the music industry, a landscape infamous for its complex and often disorganised structural traits, Leyshon (ibid.) claimed that this model presented a truer representation of the music industry's nature, one that was specifically anti-monolithic and malleable, showcasing several points of entry into a multidirectional and flexible landscape. In reflection of these two models, the 2001 model successfully showcases a more flexible approach – afforded by the evolution of musical technologies and platforms in circulation.

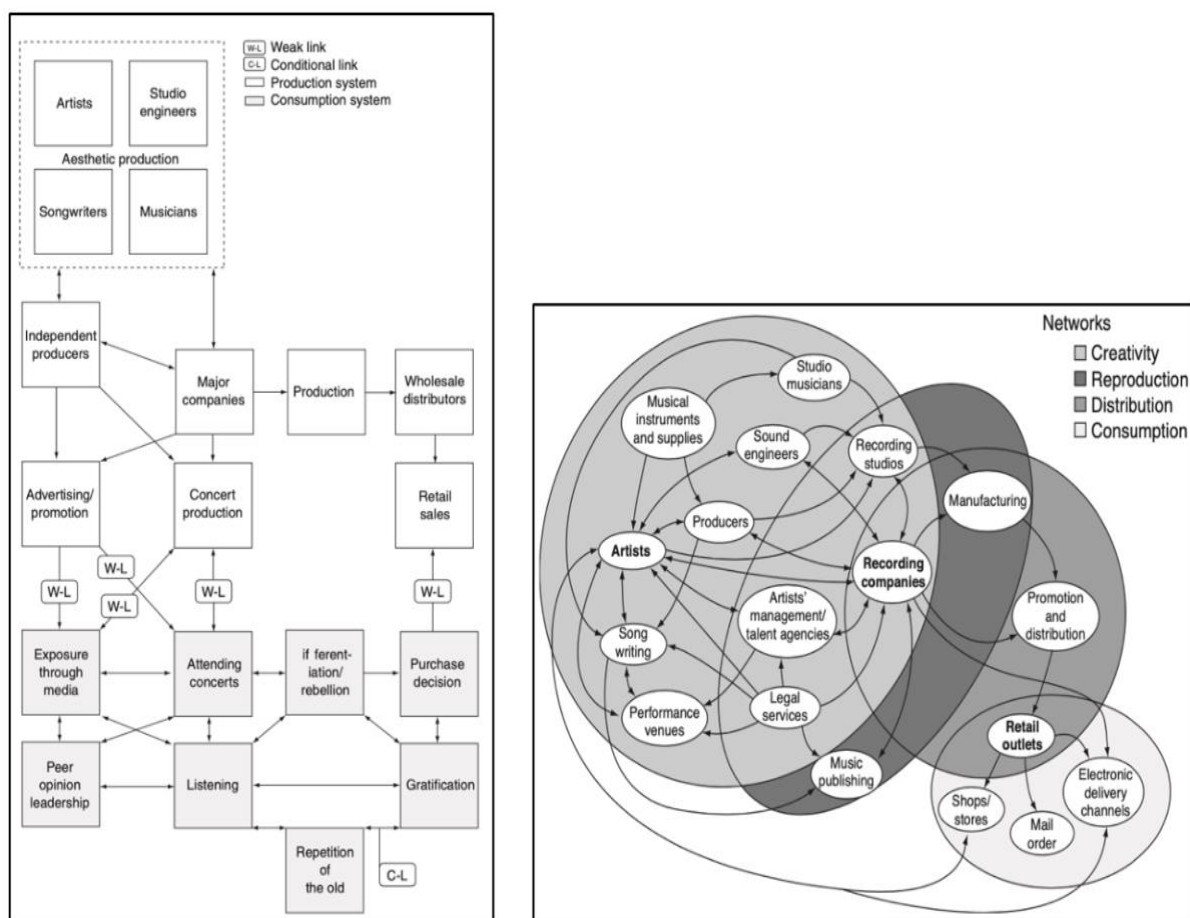


Figure 1: An image comparing the two different music industry models. On the left, Burnett and Weber (1989) propose the industry to be distinctly split into production and consumption. Whereas Leyshon (2001) portrays the industry as a mass of overlapping networks (right).

In consideration of the potential impact of new emerging technologies, Leyshon (2001) made a number of predictions for the future of the music industry in the face of digital evolution,

including the entire recalibration of the industry. He claimed that society would soon have to face “the emergence of a new technological assemblage within the music industry... organized around software formats and Internet distribution systems” with the potential to reorganise all four of the portrayed musical networks as they were known (Leyshon, 2001, p.47).

2.1.1 The Modern Music Industry

Leyshon’s (2001) projections on the future of industry also encased the risks that he believed the rise of MP3 formatting created. The author feared the “reemergence of the spectre of piracy which haunts all copyright industries” threatened industry sustainability and would cause future damage due to issues of intellectual property (IP) and copyright protection within these software formats (Leyshon, 200, p.52). In contextual reflection, this research was published during the operational lifetime of infamous peer-to-peer (P2P) services such as Napster. Music streaming platforms such as Spotify also did not hold licenses for IP during the first years of their operation, according to Eriksson et al. (2019) who states that a great portion of music files were acquired without licenses from rights holders through P2P services like Pirate Bay until years later into the platform’s operation. Nevertheless, even in the face of these questions of IP, Spilker (2018) reflectively corroborates Leyshon’s theories seventeen years later – that digital technologies of the network studio and music streaming platforms have been greatly influential in the reshaping of the music industry.

In 2021, in an attempt to map the 21st century Croatian music industry, Skoro (2021) actively draws from both models to inform the production of a more up to date model, factoring in the effects of newer digital technologies and distribution. As seen in Figure 2, Skoro’s work, similar to that of Burnett and Weber. (1989), strictly separates the stakeholders within the landscape, showcasing any potential overlap to be purely through actions within the cycle. However, the scholar makes a point to include a more granular and complete coverage of actors who are omitted from previous models (e.g., representation of artists) (Skoro, 2021).

This modern model challenges Leyshon’s (2001) prediction that firms would be able to rid themselves of costs from the processes of production and distribution, as the 2021 model shows interpretation of digital products/services being subject to the same level of granular processes faced, regardless of their intangible states.

However, this updated model does confirm a separate prediction from Leyshon (2001): that the introduction and widespread use of digital files would in fact complement the existing

formation of networks within the music industry landscape. As can be seen from Skoro's model, digital sales have not overlapped any other specific action within the environment. Instead, they have created a complimentary niche in which to exist (Skoro, 2021).

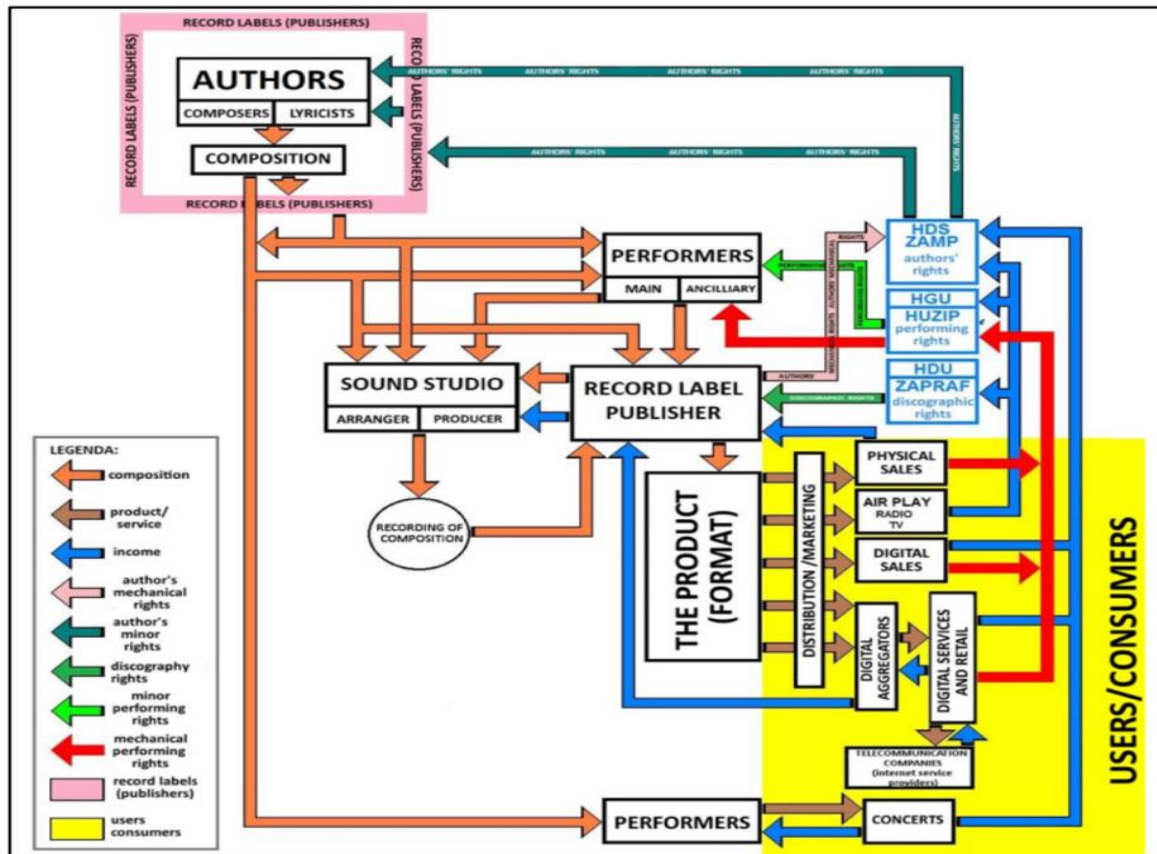


Figure 2: Skoro's 2021 model of the modern Croatian music industry (Skoro, 2021, p.47)

In reflection of the models included, the 2021 prototype offered by Skoro (2021) appropriately includes more granular-level actors involved in the processes of the music industry. However, it is Leyshon's (2001) model which potentially captures the flexibility offered by the westernised music industry that exists today. In the present-day popularity of home-studios and digital medias powered by the World Wide Web, artists have more freedom in how they record, produce, market, and distribute their music, with the intermediary processes becoming superfluous.

According to Johansson et al. (2017), debates around the technologies, forms and formats within the industry are indebted to discussion and queries regarding more general relations between media, culture, and technology. One such movement which fits within this statement and is shown within more modernistic diagrams of the music industry is the rise of the DIY musician. Digital technologies have lowered the barriers to musical access and blurred the

boundaries between music industry stakeholders' roles. Artists are able to use Web-based social media platforms to communicate directly with supporters and catch the eyes of potential label scouts, while fans and platform users have also gained more control, such as being able to engage more directly with musicians and collaborate in creative campaigns or remixing activities. This scenario is a solid imitation of Spilker's (2018) portrayal of the 'levelling hypothesis' as the pre-requisites to entry into the music industry have dramatically shifted as a result of technological evolution.

“...we are faced with a shift from industrial production to cultural production. While the industrial period was characterized by the commodification of work and material, our time is characterized through the commodification of play and experience” – Spilker (2018, p.89).

The collective examination of these separate diagrams provides visual insight into scholarly impressions of industrial change, and also allow for insight into how different stakeholders are expected to perform within these models of music industry functioning. As also shown, these models afford scholars to make a level of prediction regarding the future of the industry and its actors, with many of the predictions made by scholars like Leyshon (2001) finding confirmation throughout the years of technological development (e.g., IP issues and competition in music medium sales). However, it is notable that the issues which Leyshon predicted were mostly of a technical nature and although many were addressed throughout the last twenty years, the evolution of digital technologies brought about a number of new issues to the music industry of cultural, technological, and social natures which have yet to find resolution.

It is also notable that a number of predictions have been made on the state of the music industry which did not come to fruition. One example is the pessimistic 1998 prediction made by chairman of the Creation record label and member of the government's Creative Industries Taskforce Alan McGee who argued that the (British) music industry would be dead within a decade as bands began to distribute and download their music directly through the internet, quoting that it was “an industry in absolute crisis” (Leyshon, 2001, p.53). However, figures from the previously mentioned IFPI *Engaging with Music* report revealed that consumers people are using (on average) more than seven different methods to engage with music, and that consumption of music has risen to approximately 20.7 hours a week (IFPI,2023). A more positive presumption was made by artist Chuck D (leader of New York rap group Public Enemy) who expected the presence of MP3 files and Internet to completely replace music industry

stakeholders such as record labels who make creative decisions and take a percentage in revenue:

“They don't like MP3 because it can obliterate the middleman. But the industry won't be able to pimp MP3, so they're going to have to figure out how to co-opt it... It's the chicken coming home to roost, the levelling of the playing field, the little man getting his chance...” – Chuck, D. (Freund, 1999)

While this confident assumption is correctly deducing that MP3 provides more agency to artists who opt to distribute their music independently, it is argued in Hodgson's modern ethnographic research of music democratisation that the 'middleman' has now evolved and expanded to include technological presences within the music industry: taking the form of streaming platforms who utilise Artificial Intelligence and seek to promote corporate rhetoric and scalability at the expense of artists. This research also suggests that the market-led focus and saturation of streaming platforms place both signed and independent artists at a disadvantage, indicating that cloud-based musical distribution currently provides little support in fulfilling Spilker's (2018) previously mentioned 'levelling hypothesis' (Hodgson, 2021).

2.2 The Ongoing Popularity of Physical Music Collections

Although the previous discussion on the music industry's evolution shows that digital streaming and downloads have overtaken physical media sales, it is evident that tangible music collections still hold significant space in the modern industry. This section shall briefly discuss the phenomenon of collecting physical media, using the collection of vinyl records as an example. According to data scientist Kemp's (2022) annual reporting on global internet usage, there was a noted rise of 11% in physical media sales in 2021, with a total annual revenue of \$155 billion.¹ There are a number of reasons provided by scholars for this ongoing interest in physical collections in a world of digital efficiency. According to Hesmondhalgh (2013), it is because music derives its value from modern societies' musical experience which falls into two dimensions. The first dimension is linked to the private self, where music often is experienced both intensely and emotionally. As Martin (1995) states, music is a set of cultural practices which are entwined into our personal and subjective spheres. Music also creates the

¹ The Physical Media sales category did not include digital downloads or streaming.

foundation for others to emotionally connect.² The second musical dimension inhabits the realm of collective, public experience. Large numbers of individuals can come together to know or experience the same musical material and artists through different musical environments such as live performance. This demonstrates that music can represent and allow a significant assembly of intimate and social realms, providing individuals both self-identity and collective identity, often simultaneously. Hesmondhalgh (2013) states that all tangible and intangible cultural products have this ability, yet music's capacity to connect to both emotions and feelings makes it an especially effective in combining the powers of private and public experience. With physically tangible mediums, this is often valued through the experience of collecting.

In reflection of this, it is important to note that within this research project, the backgrounds, technical and musical expertise, and motivations of study participants users were varied. As a result during the qualitative research process, the terminology around music engagement (e.g., collecting, categorising and sharing) was adapted organically from the answers provided within the semi-structured interviews. However, the following terminologies and theories surrounding collection, categorisation and classification featured within this chapter helped to inform both the creation of interview questions and the subsequent analysis of interviewees' responses in this project.

2.2.1 Collecting

Academic discourse around the act of collecting has evolved in reaction to the technological developments within the industry. For example, in examining the system of collecting, Elsner and Cardinal (1994) refer to Baudrillard's historical commentary on physical collections, which separates the act of collecting from the notion of gathering, stating that objects may only have two possibilities: they are used, or they are possessed. This observation also depicts the specific steps that embodies the act of collecting:

1. Pursuing a series of singular items
2. Fostering the passionate concept of possession
3. Finding
4. Categorising

² The given example of this emotional connection is one individual singing to another (Hesmondhalgh, 2013).

5. Collecting
6. The disposing of objects

Hagen's (2015) modern conceptualisation of the online music collection process echoes Baudrillard's commentary, but in a more concise framework (seemingly emulating the more streamlined process of music streaming collections. Hagen (ibid.) states that without the following structure, the online music collection cannot exist (its value often being assessed on an individual level):

1. Ordering: the ability to embed habit into disorder to such a level that it appears as order.
2. Owning: a phenomenon which loses its meaning when the collection loses its owner.
3. Desiring: the act of acquiring new items in order to renew the current world.

By being able to use these foundational steps online, Zhong et al. (2013) propose that digital development has turned would-be collectors into official online curators, sharing their personal editorial interpretations by selecting pre-existing content (such as musical tracks) from digital platforms, allowing them to categorise and create collections. In addition to this concept, Liu et al. (2016) states that the idea of curation is based on models which offers a response to the common online issue of information abundance, further explaining that acts of curation depend on subjective ad hoc skill sets and/or contextual knowledge. Therefore, online curation is linked with numerous activities including collecting, cataloguing, organising, preserving, and facilitating discussions. This idea of online curation and collection of music resonates with Webster's (2019) explanation of how streaming platforms enhance user engagement by employing tools such as recommender systems to aid consumer curation and the navigation of musical abundance.

2.2.2 Collecting Physical Media: Records

Since their introduction in 1930, record collections have provided an outlet for consumers to showcase their musical identities (Hagen, 2015). This statement resonates to an extent with both Baudrillard's (Elsner and Cardinal, 1994) discussion of true collection, and Adorno and Horkheimer's 1944 theory of Culture Industry (Adorno and Horkheimer, 2002). This idea of identity is also supported through Straw's (2000) explanation that – from a user's personal perspective – records are merely the physical remains of the processes of commodification and stylistic change. As a result, they are a piece of the forever ongoing relocation of public entities which become the possession of a consumer's personal environment.

Although they are no longer the top selling medium of musical distribution (due to faster, more durable, and portable developments to musical access as explained in section 2.5), records have experienced a resurgence in popularity and are sold both online and within record stores. However, according to McCourt (2005), the action of physically categorising records once acquiring them has been an infamous issue since their introduction. This is proposed to not only be a subjective problem of preference, but one which also pertains to the physical nature in which records were designed. The slim and rather damage-prone discs and their bulky protective packaging make for excellent storage in terms of physical space – if records are stored upright and side by side (ibid.). However, when arranging, collectors may also take the size and material of records into account. Despite potential storage difficulties, a commonly found theme amongst record collectors is enjoyment of the process of physical categorisation. In *High Fidelity*, Hornby (1996) hints at the sense of control and self that record collectors feel:

“But what I really like is the feeling of security I get from my new filing system; I have made myself more complicated than I really am. I have a couple of thousand records, and you have to be me ... to know how to find any of them” – Hornby (1996, p.26).

This approach to user-personalised classification and categorisation showcases the flexibility of records as a musical medium and reinforces Liu et al.’s (2016) argument that the act of collection is based on ad-hoc skills and knowledge. Also showcased in Hornby’s example is a process which can be recycled within what Hagen (2015) describes as a self-made repository of social and cultural representation associated with oneself to create order. This is also further supported by Hornby’s concept that human autonomy dictates the attainment, grouping, and organisation of a collection, resulting in the solace they provide the collector (Hornby, 1996).

“It’s not like collecting records is like collecting stamps, or beer mats, or antique thimbles. There’s a whole world in here... there is history, and geography, and poetry, and countless other things I should have studied at school, including music”. – Hornby, (1996, p.83)

The common focus among these scholarly works is the perceived effects of society’s (often celebrated) transition from physical to digital technology, with research suggesting that the introduction of new music media affects the observed qualities of the old ones in different ways (Kjus, 2016). Chivers Yochim and Biddinger (2008) discovered that enthusiastic collectors of records associated their vinyl collections with human-based qualities such as imperfection. When faced with the ever-frozen presence of impervious digital music files and devices,

themes of mortality were even considered. Hayes (2006) even describes a group of Canadian adolescent music fans who had begun collecting second-hand vinyl specifically in protest of the digital music industry. Thus, vinyl as a medium arguably has received a new role in the context of connection to the identity and physicality of the human collector (Kjus, 2016).

2.2.3 Record Stores

Often, the collection of records will be influenced by the layout of record stores. However, a store's method of cataloguing and layout will be subjective to the record store in where factors like physical space, marketing standards and record quantities must be considered (Gibson, 2016). This prioritisation is emulated in many second-hand stores and record stores, with the physical storage issues resurrecting themselves into cramped methods of record presentation, leaving consumers and customers with no choice but to end up "digging the crates" (Katz, 2010, p.2). However, this step featured in the process of record collection suggestively runs parallel to Griswold's (2012) framework of collection as a social process. The author's example (as shown in Figure 3) frames collection as a social process: featuring (book) collectors and discusses the degree to which the collector/recipient values the specific artefact over the arguably more important procedure of accumulating them. Therefore, it could be inferred that it is the customs and practices of collection that ultimately establish significance for collectors.

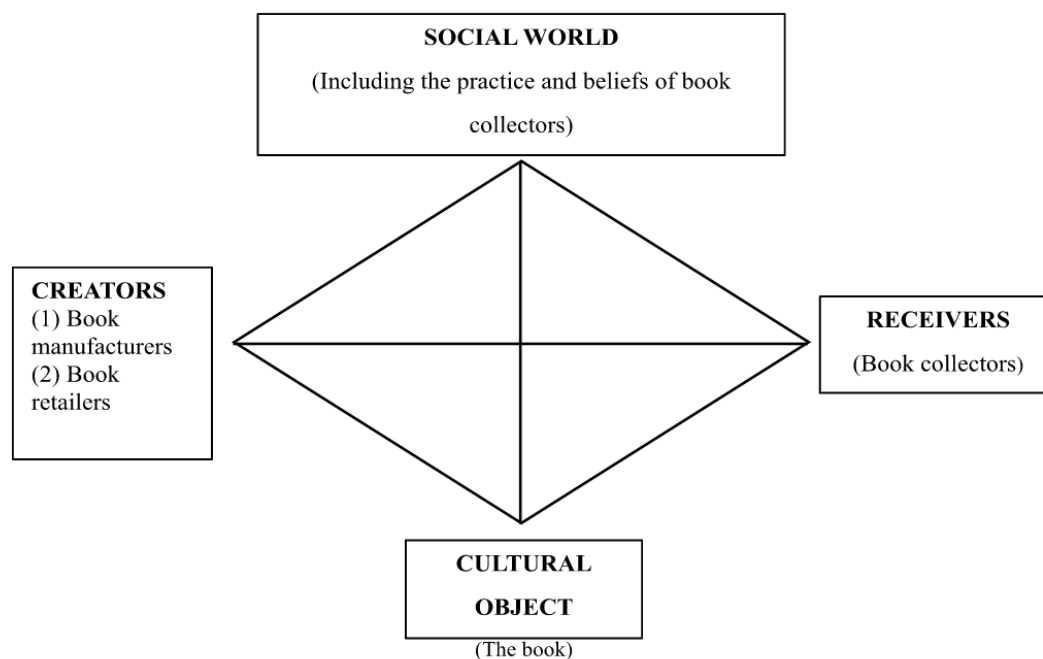


Figure 3: A diagram of Griswold's (2012, p.15) 'Cultural Diamond'- a framework of collection as a social process.

These concepts of collection and identity closely relate with other philosophies of more market-focused natures, such as ‘consumer-culture theory’, described by Bradshaw and Holbrook (2008), which portrays the consumer as an agent who is choosing to use market-generated products and materials to create a sense of identity, of their own free will. The user also acts as a co-creator of culture, using consumer-based skills to generate social roles which oppose the usual norms or situational awareness. These theories therefore cast consumers as interpretive and influential actors who influence production of products and use them to create their own perceived impressions.

This literature has shown that there are a number of reasonings as to why physical collections like records have continued to retain space within consumer practices (amidst the domination of digital music). In contrast to physical mediums, the sound quality available on new online distribution services has been continually condemned, with large artists such as Neil Young famously protesting that digital technology is ruining music (Rolling Stone, 2012).

Hesmondhalgh (2013) also describes how the initially celebrated ability to dissect albums into individual tracks and singles has also created hesitation regarding artists’ larger-scale creative expression and threatens their abilities to share their work in depth. Other arguments surround artist wellbeing and also economic fairness within the new distribution models (which shall be discussed later in this chapter). More simplistic reasons, as demonstrated within this literature, are the musical preference of consumers, the enjoyment provided through the art of collecting, and the identity of musical taste and community that physical collections reinforce.

2.3 The Position of Music Genre

Established in section 2.1, the evolution of the music industry has resulted in several changes regarding how society consumes music. Physical music mediums were championed over the years, with each physical product requiring a specific number of physical and financial obligations to be used. These requirements have been minimised in scale with regard to the intangible listening modes of music downloads and music streaming platforms, only requiring a compatible device and network connection. However, changes and effects of intangible music consumption have traversed further than the physical state of the listening; with the digitalisation of music revealing new opportunity in how users can engage with music and altering how they can interact with music categorisation as a personal practice. The concept of music genre still holds a role in the modern music industry, as reflected by IFPI’s (2023) reporting that people listen to approximately eight different genres of music. However, these

modern affordances call into question the relevancy of a number of traditional music customs, including that of the robustness and sustainability of music genre and music categorisation. Therefore, this section discusses the multifaceted concept of music genre and the supporting scholarly research.

2.3.1 Genre and Social Procedure

Musicologist Franco Fabbri (1981) dedicated a significant portion of his scholarly efforts to exploring musical genre and its functioning. The conclusive message delivered by Fabbri (1981) was that music genres are in fact, methods of procedures adopted by specific communities in order to represent a unified and musically codified identity. The author's scholastic work presents an evolving attitude in study of genre through the years 1980 – 1999, where presence is also afforded to the digital developments and potentials of the World Wide Web in the final 1999 publication. I interpret this as an act of foreshadowing the Web's growth to eventually become the influential force which it is recognised as today, changing ways in which users of genre interact (Fabbri, 1999). This emphasis on the social element of genre's meaning aligns with the separate works of Frow and Miller, who also strongly pair genre with social action within the arts and humanities (Frow, 2015; Miller, 1984). This alignment depicts that genres must be authenticated and encouraged by the input of a human collective in order to exist and sustain. However, according to Rockwell (2012), another explanation for the emergence of social debate on genre from a musicological context, is that it has less to do with ideologies and purpose, and more to do with simply defending and praising one's musical taste. This is also echoed within Holt's (2007) research on genre within popular music, which stresses the importance of discourse within genre formation. By positioning genre as the consistent collective in both a musical and social context, Holt (ibid.) explains that people can have their own styles, but no person can actually *have* a genre. This is due to the way in which genre conventions and potentials are created: by repetitive acts implemented by a group and as a result, the practise of genre creation is usually accompanied by the presence of new social procedures (ibid.). One common example is the organisation of music scenes around particular genres. By this account, the debate is a question of musical value and occurs naturally because evaluative conversations and subject ranking is part of human communication. The concept of music genre's social process and discourse was also investigated by sociologist Frith in 1996, who referred to these conversations of genre as "the common currency of friendship, and the essence of popular culture" (Frith, 1996, p.4). From these insights, it is clear that collective social conduct and interaction featuring recurring socio-cultural-political features are integral

to genre development, and that genres may only be fully developed through the realisation of specific boundaries or beliefs.

2.3.2 The Power of the Collective

This gives rise to questions of genre stability in regard to how time alters beliefs, or how genre trends begin to lose their impact. How does a collective decide in the altering of genres and which stakeholders are responsible for those potential adaptations to the original concepts? Answers are offered by Holt (2007) who states that genre is the foundational structuring force in the musical world and creates implications surrounding the very practises in which people make, identify with, and experience music. However, this can become an issue when the very practises in which people experience and make music, become subject to pre-established expectation, or face stereotyping mannerisms influenced by preconceived notions of cultures (ibid.). Though it is notable that not all genres were subject to heavy stereotypes, many such as rock and roll did face this issue upon reception. When the genre emerged in the 1950s, catalysed with the influential figure of Elvis Presley, it was met with disdain from older white Southern audiences due to its sexual connotations, and involvement of erratic dancing, which these communities exclusively associated with black audiences:

“...we measured ourselves against the judgements of our elders and believed what they told us even when it rang false to our own experience. There were at that time certain immutable standards, and if they said that rock ‘n’ roll was a passing fad... it seemed unimaginable that it was not”- Guralnick, 1971 (Holt, 2007: p.54)

Stereotypes such as these held immense power due to pre-established belief systems, grounded in an era of intense racial division where household elders held sway over influence of musical tastes and musical reputations. In reflection of these power dynamics, it is clear that methods of music consumption and influence have significantly changed with the aid of digitisation, but social influence remains a key element in the development of music tastes.

Building on the previously mentioned notions of genre embodying stricter boundaries and representations, Middleton’s (1990) musicological studies describe musical genre as part of the coding, competence, and communication processes within [popular] music. To first understand genre’s social meanings, we must understand that people hold the unquestioned belief that music itself conveys meaning. This idea acts as a gateway to the ideology of specific analogies between music and language which is why people may associate their difficulty in enjoying a specific type of music, due to an inability to connect with its meaning (e.g., “I don’t

understand what rock is trying to say”) (Middleton., p.172). This idea of user-musical communication is further reflected in the writings of Hargreaves et al. (2022), who reiterates the fundamentalism of music as a passage of communication, arguing that it acts as a tool for the construction of new identities, and the shifting of pre-existing ones in the same manner as spoken language. This assertion of linguistic function is further supported from the sociological work of Neale (1980, p.19). who proposes that genre is to be recognised as a system of “orientations, expectations and conventions that circulate between industry, text and genres”. This idea is further sociologically reinforced by Lena and Peterson (2008), whose study concludes that genre should not be approached as a discourse about taxonomy or a market category, but instead as a creative group process, resulting in facilitation of understanding of the processes of classification and systematic change.

However, as cited by Lena and Peterson (2008), music genre does not always have an organic, avant-garde origin. In some cases, a genre has been commercially manufactured and marketed by media and music executives (ibid.). A key example of this is World Music which was founded by four radio executives in the 1980s in order to help record stores advertise records which were not Western-based or English-spoken following Paul Simon’s successful Graceland album, with co-founder Charlie Gillet stating that commerciality was the true motivator (Kalia, 2019).

“It was all geared to record shops. That was the only thing we were thinking about” – Charlie Gillet (ibid.).

However, many now believe that ‘World Music’ as a term is archaic, unsuitable for the modern music era, and was relevant only for the record stores of the 1980s who did not know how to group music that wasn’t from the West. In more recent years the term has received public criticism for being too broad and ignorant to the differences between cultures and genres which are forced to be grouped together under this umbrella term.

“It only helps reinforce the narrative that other people’s music is less evolved and important than your own and doesn’t deserve a more nuanced approach...” – Sarathy Kowar (Kalia, 2019)

This shift in modern mentality also shows the ways in which genre can evolve – even when from a marketed origin – based upon the collective decisions and tastes of its established community (ibid.).

These works further reinforce the message that the existence of genre is heavily related to that of a social dimension, bringing into question the idea of success of genre without a social setting in which it can thrive. Through these studies, there are clear parallels drawn between the formation and survival of genre and social/community interactions.

2.3.3 Contention Within Genre Research

Although these previously mentioned examples show disciplinary alignment in the statements that music is categorised (into genre) by listeners through perception, other studies on music genre are positioned to disagree to some extent. Sociologist Negus (1999) directly suggests that Fabbri's 1980s-based ideas of constraint over possibility limits the experiences of the actors of consumers and musicians (Fabbri, 1981). However, the author concludes that this difference in viewpoint could potentially lie in simple differences in perspective regarding genre; where some view coding, systems and conventions, others see dynamic and evolving musical characteristics. It is also well established that record labels have contributed to organising artists and audiences into groups with shared musical standards, which also consequently positions the author to specifically disagree to an extent with the previously mentioned work of Frow (2015), Miller (1981), Middleton (1990) and Neale (1980), due to their support of pairing generic boundary setting characteristics with idea of convention and guides (Hesmondhalgh, 2013; Negus, 1999). According to Negus (1999), scholars should aim to understand genre in its everyday existence and fluid conventions, as the act of pairing is futile due to the obstacle of music signification, where the establishment of genre theories are more difficult due to the production forms found within music, unlike the more standardised structures found in other media forms (e.g., film). This statement is reinforced further by Holt's (2007) reflection of Negus's (1999) work, agreeing that "a genre can be viewed as a culture with the characteristics of a system or systematic functions" but not as the result of a rigorous application of rules (Holt, 2007, p.23). Although these previous works convey the importance of the social connection to the understanding of genre, this argument from Negus (1999) pushes for an understanding of genre as a performance and culture which consequently raises questions of cultural belonging and identity.

2.3.4 Belonging to/Performing a Genre

These opposing scholarly insights from Negus and Fabbri can arguably be fused with the sociological and musicological mannerisms of Simon Frith's (1996, p.88) explanation of "genre worlds". According to Frith (1996), the genre is firstly built and refined through the continual

process of interactions and interpretation between performers, listeners, and mediatory individuals. This results in the new established genre being moulded further by marketing sectors, whose aim is to exploit this new genre world through mass marketing and production. This can be seen to merge Fabbri's (1981) idea of genre shaping by sociological and communal collaboration with Negus's (1999) work into mass marketing and specifically corporate strategies. Furthermore, a notable parallel exists between Frith's (1996) explanation of the foundational construction and insulation found within specific genre worlds, and Frow's (2014, p. 7) proposition of "schematic worlds" in which genres are performed. From this perspective, each world operates as a limited space of reality in which a genre's individual space and time coordinates are carried out alongside operational rules and regulations, similar to that of the constructional basis of a "genre world" and previously mentioned ideas of generic coding. According to Middleton (1990) in the case of any musical event, there are a range of codes in operation, many of them not specifically related to the music but instead originating from systems of movements, signs, and communications. Drawing on the existence of music as a "multi- parameter system", the author explains that the musical codes are also several, relating to pitch, timbre, structure, and more (ibid, 1990, p.173). These codes may differ in strength, imitating the levels of musical ingredients in relation to the genre being created. This notion of genre performance and belonging being the outcome of specific codified events (which are influenced by numerous factors of varying strength) showcases a level of control and influence within genre spheres on an individual level. However, scholarly ideas of evolutionary control would seem to suggest otherwise.

2.3.5 Functions and Evolutions of Genre

Although there is stress placed on the conventions and regulations of genre by several of the aforementioned scholars, the central argument of Frow's (2014, p.2) work is that the concept of genre does not exist to identify different stylistic categories, but in fact, create "effects of reality and truth, authority and plausibility, which are central to the different ways the world is understood". There is a point made here that these effects are not stable because entities do not belong to genres, they are instead *uses* of genre, acting as reference points to a plural "field or economy of genres", with their intricacy originating from the complexity of their specific relation (ibid.). In musicological contexts, this concept of fluidity is echoed in the work of Ennis (1992, p.96), who refers to these type of shared spaces as "streams", where a number of genres may flow in varying proximity. Ennis (1992) explains from the musical perspective that some groups, can develop variants over time, but maintain unity through shared institutions.

This is supported by Gendron (2002), whose study of genre formation showcased that music genres tend to evolve from pre-existing genres which share musical or societal characteristics.

The sociological study of genre development by Lena and Peterson (2008) could be interpreted to support these previous works. By establishing four types of genres and the uniform order of their trajectories (Avant-garde, Scene based, Industrial and Traditionalist (AgSIT)), the authors suggest that there is a notable parallel between the way that music genres adapt to processes within other domains: genres journey from initial perception as novelty to old fashioned or outdated. What is notable from this point is the reliance on social acceptance to remain (ibid.).

In reflections of web-based technology and its rapid adoption in the last decade, the authors also suggest that the World Wide Web has the power to hinder existing genre development and consumption practices, whilst actively aiding the development of new digitally savvy genres (Lena and Peterson, 2008.). Unlike Fabbri's 1999 publication, where ideas of the early Web's role in music genre were mainly speculative, Lena and Peterson's (2008) early publication reinforce attention to genre and the Web's relationship during an era when the first music streaming platforms were launching, following the dismantling of historic peer-to-peer (P2P) sharing site Napster. When framed against the AgSIT trajectory and the rise of music streaming use, the scope of my research brings into question the state of music genre trajectory in today's digital landscapes. Are music streaming platforms actively preserving genres in time within their massive catalogues, leaving them in the cloud for users to access at all times, therefore disrupting the idea of a natural trajectory and social input in genre development?

From the examination of scholarly insights across the disciplines of Musicology and Sociology, I can conclude that genre's role, function, and status is subject to fluctuation dependent upon the discipline within which it is being studied, with evidence of parallels in scholarly attitude towards certain aspects of the concept. There is unavoidable weighting placed on the social procedures in relation to genre development and resilience, and the relationships that communities hold, impacting genres on levels of growth and influence. However, the sheer fluidity of genre leaves much to be questioned and examined on a scholarly level in this modern listening era.

2.3.6 Music Genre Mapping and Classification

The previously raised questions of genre create further queries as to how theories of rationale, boundaries or restraint can be applied to the study of such an amorphous concept in my study's contextual landscape of music streaming. Therefore, this section briefly explores

examples of proposed genre mapping projects, their motives, fundamentals, and the accompanying limitations in order to gain understanding of the challenges faced by this task.

2.3.6.1 A Musicological Mapping Approach

In attempts to create more apparent boundaries between musical characteristics, there have been scholarly efforts to visually map genre evolutions. An example of this is Rockwell's (2012) research on categorising the bluegrass genre's components in order to challenge the ideas of what makes a *classic* genre. Instead of considering bluegrass as a classical genre – where all members of the category are given the same level of membership – the author draws on work from Barsalou (1992) to present a partial frame of bluegrass and its components as a proto-type genre, in aims to represent an excerpt of the process that bluegrass fans could use when deciding whether to classify a specific song as bluegrass (Rockwell, 2012, p.376).

Figure 4 shows the frame containing two musical pieces: Krauss's cover of the song 'Every Time You Say Goodbye' and Monroe's "classic" 1947 'I'm Going Back to Old Kentucky' recording. The frame outlines the differences and similarities that two pieces of bluegrass music can share, yet through analysis of physical and musical characteristics, can still belong to the same membership at varying levels (ibid.). The asterisked values represent common components of bluegrass, many of which clearly posit Monroe's bluegrass supremacy (ibid.). It is therefore unsurprising that as marked in this example, Monroe's song fits the prototype completely, while Krauss's fits only partially. Based on this partial frame, Rockwell (ibid.) theorises that the level to which Krauss's cover can be confirmed as bluegrass is solely dependent on how far listeners are subjectively willing to stray from the proto-type and how much value they apply to certain characteristics when deciding on bluegrass's membership.

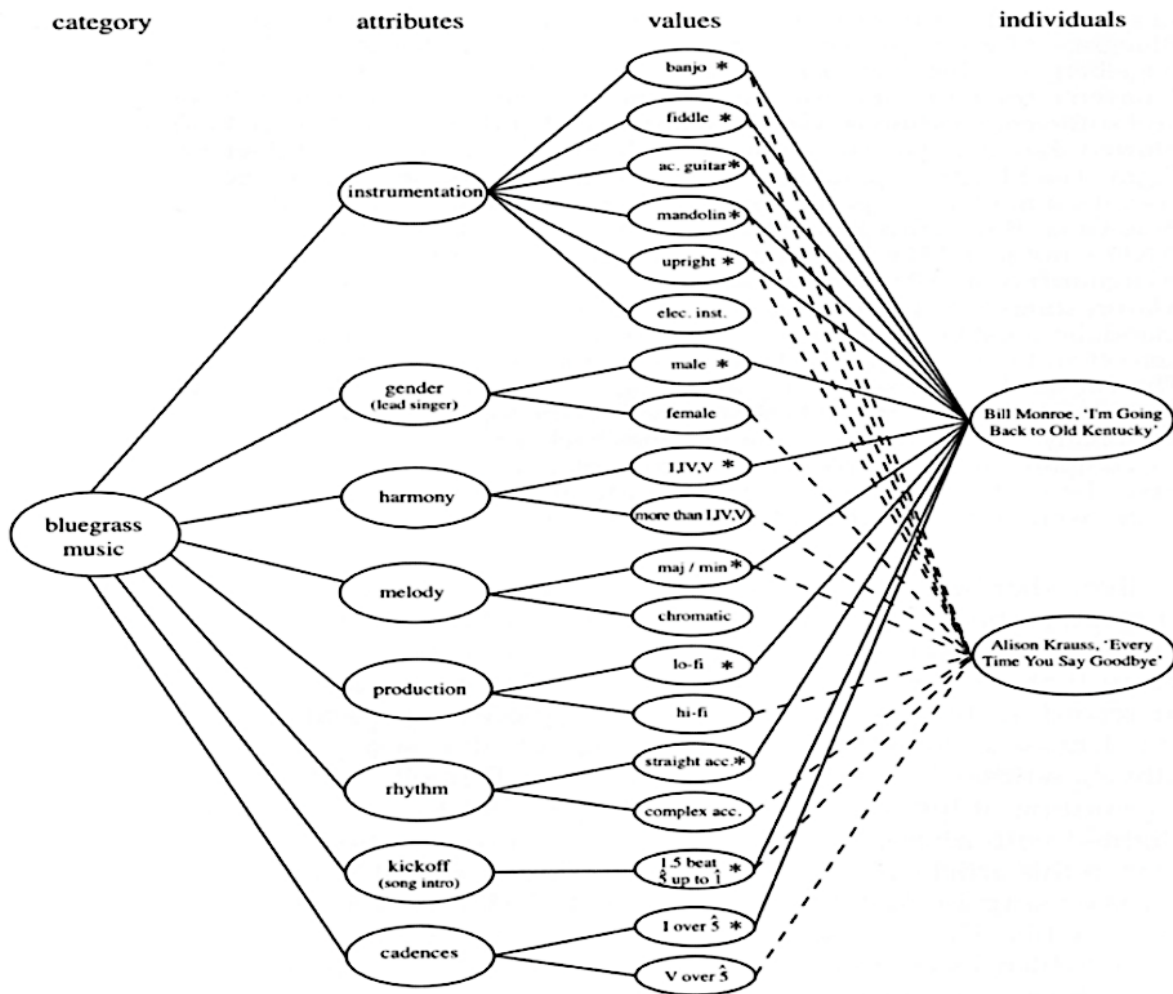


Figure 4: A partial frame depicting components of bluegrass (Rockwell, 2012, p.376)

The highlighting of the physical trait of ‘gender’ amongst instrumental features suggestively relates to statements previously made within Middleton’s (1990) studies, describing musical genre as only a small piece of the coding, competence, and communication puzzle within [popular] music. However, it could also be suggested that Rockwell’s 2012 framework misaligns with Frow’s (2014) idea of performances being uses of genre, as the framework seems to imply that these traits belong to bluegrass rather than *use* the genre. However, Rockwell (2012) states that the research contributes to a body of work which actively considers genre (in popular music) as a “flexible construct involving both musical performance and cultural formations”, therefore scholarly alignment is seen in regard to other features of genre scholarship (Rockwell, 2012, p.363).

2.3.6.1.1 The Layers of Identity in Music Genre

This work by Rockwell (ibid.) also alludes to genre's layered workings, with the concept being made up of layers of different identities and components. In Rockwell's (ibid.) example of bluegrass, the trait of gender is marked as a key attribute which holds power within the influence of the genre's identity. However, other intersectional concepts such as class, race, nationality, and age are influential within the origin, expansion and identity of a music genre (Lena and Peterson, 2008). In the sociological study of music, Roy and Dowd (2010) explain that this is because music is embedded into the everyday life of society and therefore is inseparable from the social life of humans, informing the meanings that humans give to themselves and the world. Additionally, in examining the complex relationship between genre and art, scholar Georgina Born states that music's consistent existence in the human experience make it an instructive tool in theorising the emergence of identity, due to the way it can produce new perspectives on "issues of materiality, mediation and affect" (Born, 2011, p.376).

However, Frith's (Du Gay and Hall, 1996) historical criticism of the rise of identity politics in music warned of emphasised assertions of cultural essentialism: that music can only be appreciated by the groups from which it originated. While he states that this argument of cultural creation flowing into designated groups for musical appreciation could be seen as theoretically straightforward, this argument does not align with real-world consumption of music.

"...how do we make sense of the obvious love of European listeners and players for the music of the African diaspora? Who is expressing what when, say, Ella Fitzgerald sings Cole Porter? When Yothu Yindi rocks?" – Simon Frith (du Gay and Hall, 1996, p.109)

In order to counter the limiting effects of cultural assertions and ideological notions that our layered identities shape our experiences of the music we listen, Frith (ibid.) encourages the practice of letting music's experiences for both composer/performer and listener to provide our shaping of how humans relate to society, allowing music to formulate our way of making sense of the world (reinforcing Born's (2011) sentiments) (du Gay and Hall, 1996).

These writings represent a brief exploration into the layered and complex components which equate to musical genres and how music plays an important role in the recognition of new ideas and expression of the social self and wider society. These topics also raise questions as to how important the concept of identity and music genres are within modern music distribution – how

can users experience these components of music genre through streaming platforms which offer a seemingly two-dimensional experience of music? This also creates question as to how genre representation can be fully recognised or celebrated on commercial music streaming platforms, which utilise mass marketing techniques and algorithms to power their primary aim of distributing musical tracks on a mass scale.

2.3.6.2 A Mathematical Mapping Approach

In contrast to social and cultural influences, other researchers have used more mathematical approaches to map genre. Lambiotte and Ausloos (2006) specifically use a percolation-filtering-type method to provide a mapping solution to the heavily subjective act of genre classification and the “genre-fication of music” (Lambiotte and Ausloos, 2006, p.187). The research prefaces that genre classification and mapping are made difficult due to unique user backgrounds, tastes, knowledge, moods, or social networks. There is also a noted resistance from artists to classify themselves within traditional genre pigeon-holes. Instead, they characterise themselves as unique blends of artistic influence and in doing so, saturate the genre landscape. By utilising information from a database downloaded from audioscrobbler.com in January 2005, the researchers create a bipartite network featuring two nodes: a list of users and a list of music groups that the users own in their personal libraries. The resulting effect is a showcase of the distinct relations and separation between 995 music genres as shown below in in Figure 5 (Lambiotte and Ausloos, 2006, p.187).

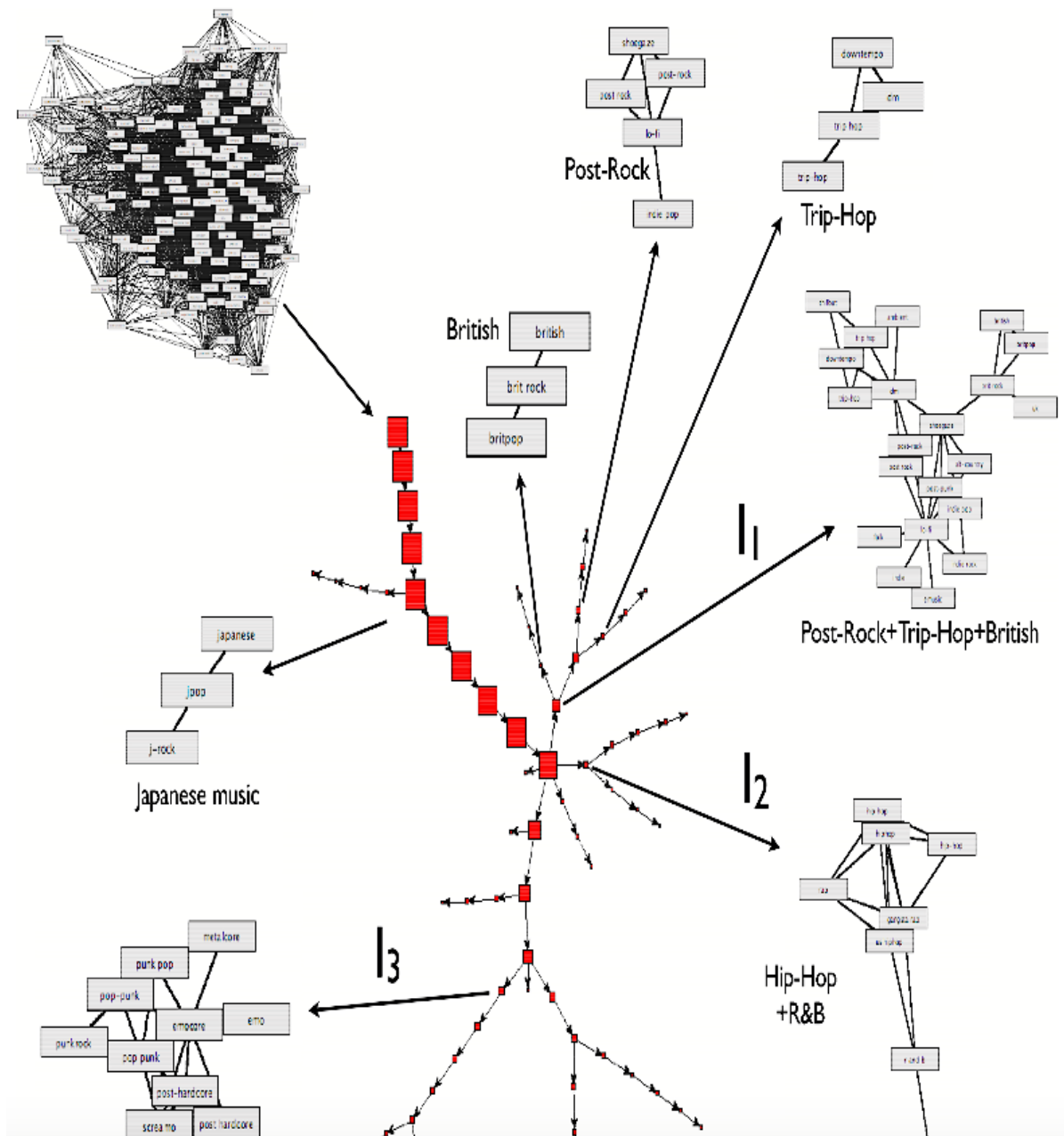


Figure 5: A partial representation of Lambiotte and Ausloos's (2006, p. 187) correlation matrix and its filtering parameter. Starting from thousands of data points, the central tree shows the emergence of multiple miniature homogeneous branches featuring 'music-subdivisions', thereby showing evidence of computationally and mathematically derived families. It can be seen that multiple entities can be grouped together under families (e.g., Japanese music, British, Trip-Hop...) through visual connections.³

³ For the full scale of this diagram, visit <https://doi.org/10.1140/epjb/e2006-00115-0>.

It is notable that this research was published in 2006, showcasing how genre classification was considered a messy and complex task then, and that technological methods were being deployed in effort to fix this before the trending debut and growth of music streaming platforms. Although successful in showcasing 995 genre relations, the small sample size of genres used within the experiment itself which could result in the argument that these results are only surface level and would need to be repeated at present day scale. However, other much larger experiments have taken these criticisms into account.

2.3.6.3 An Interactive Mapping Approach

Further efforts in the documentation and presentation of musical genre includes the visually interactive *Every Noise at Once* project created in 2013 by Echo Nest engineer (and ex-Spotify employee) Glenn McDonald (2023), who worked at Spotify until December 2024. Since his employment ended at Spotify, McDonald (2024) has had to halt the decade-long project, due to his access to (Spotify's) source data being cut upon dismissal.

Every Noise at Once showcases an alternative method of categorising genres, the final result being a visual online map which is accessible to a lay audience, featuring direct links to Spotify. By gathering data points using Spotify's Application Programming Interface (API), the project algorithmically generates a readability-adjusted scatterplot of the musical genre-space (as shown in Figure 6).

The number of plots on the map representing genre-shaped distinctions by Spotify has continued to grow since the project's conception in 2013, an example being the growth from 5,382 plots in April 2021 to 6,624 plots in June 2023 (McDonald, 2023). The API also allows the project to curate a number of theme-based playlists which act as categorising agents for genre on a more granular level. An example of this being a playlist featuring ranked Christmas songs and their popularity based on geographical location.



considered necessary (McDonald, 2023). When examining *Every Noise at Once*, understanding where bias may occur is not necessarily clear, as the use of measured subjective input may have resulted in the balancing out of results through the consideration of social, political, or technical factors which an algorithm cannot understand. This use of measured neutrality is also reflected in the wording used to create *Every Noise at Once*'s tonal measuring chart which calculates genre placement (as shown in Table 1). The words used to describe the quality of sound (e.g., 'organic' and 'denser') are somewhat vague, implying at the level of flexibility that is needed to map musical genres and the natures of their relationships.

Table 1: A table representation of the tonal chart used by *Every Noise at Once* to associate genres with their map placements and the most extremely positioned genre relative to that positioning (McDonald, 2022).

Direction	Sound Quality	Genre-Map Example
General up	More electronic and mechanical	<i>"Latin tech house", "rominimal", "re:techno"</i>
General down	More organic	<i>"Polish classical piano", "Czech classical piano"</i>
General left	More atmospheric and denser	<i>"Cryptic black metal", "white noise", whale song"</i>
General right	Spikier and bouncier	<i>"German Literature", bible", military cadence"</i>

While this detailed map and supplementary simplistic chart offer benefits in terms of flexibility and discovery, it makes understanding the relationships between mapped genres more challenging due to the lack of metadata accompanying the genres and their associated artists. This results in a lack of understanding regarding the categorical and algorithmic constraints utilised by *Every Noise at Once* to validate the relations between these genre entities within this detailed structure. Examples of these omissions from genre classification raises questions regarding the extent to which we can really classify a genre through digital methods.

2.3.6.4 Genre Classification Through Music Information Retrieval

Whilst there is clear evidence of scholarly interest in genre's social and musical evolutions and trajectories, there also exists a body of research exploring the alternative avenues of music genre research. The field of Music Information Retrieval (MIR), from which the majority of the following mentioned research is affiliated, consists of scholars who share an interest in discovering new ways of enhancing music search, listening and genre classification by mining and examining significant information from the content within music sources – a topic which has garnered much interest in the music streaming industry. MIR's combining of technology (e.g., machine learning techniques) and musicological knowledge results in numerous innovative methods of music search, classification, and interaction. One of the earliest papers to propose the use of machine learning techniques to improve automated musical style recognition was published by Dannenberg et al. (1997) within the field of MIR. The authors explored the use of computational machine learning techniques (specifically through the creation of classifiers using naïve Bayesian, linear and neural network approaches) to help musicians and machines communicate through the real-time identification of whatever style the musician is performing. The authors originally chose four identification styles, but later added an additional four, confirming the complexity of musical identification (Dannenberg et al., 1997). This work was considered ground-breaking by scholars such as McKay and Fujinaga (2006) who then published a more developed article questioning the limited state of music genre classification and the feasibility in MIR pursuing its improvement. The conclusions surrounded an adoption of multi-disciplinary approaches. It is notable that much of the research in the following discussion was published in a concentrated window of time between 2000-2012, suggesting a connection in MIR's growing research interest in machine learning to the development and roll out of music streaming platforms.

Other techniques proposed by MIR scholars include the extraction of information based upon visual elements, an example being the conversion of audio signal representations of music into spectrograms in order to examine genre information within the context of texture (Costa et al., 2011). According to the authors, this technique enables researchers to note various similarities and differences in texture between genres, as many share similarities at low level frequencies but grow more individualistic as the frequency increases (as shown in Figure 7). It is proposed that this approach can provide complementary information to that provided by short-term, low-level characteristics of the music audio signal (Costa et al., 2011, p.3.).

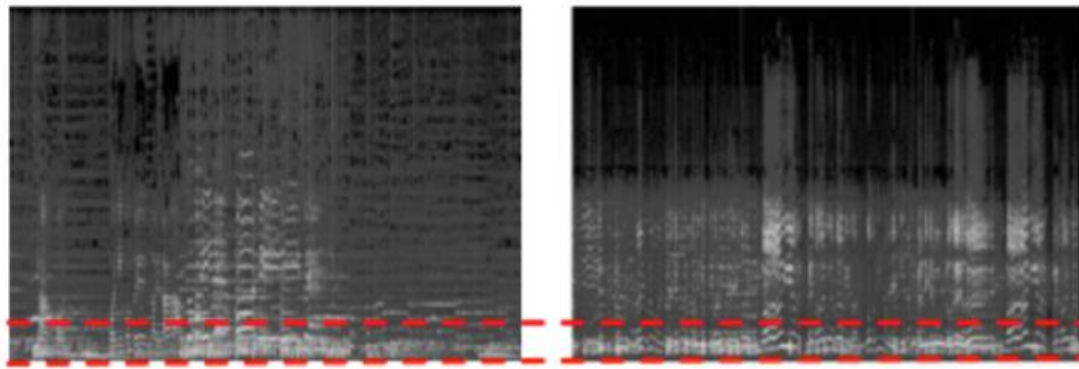


Figure 7: Two different genres represented by spectrograms, showing how the various similarities they share at low frequencies (between the markers) in contrast to the higher frequencies above these markers. (Costa et. al., 2011, p.3)

These computational techniques and developments from the field of MIR represent efforts to fuse the vastly complex medium of music with classification using technologies of the modern present. This in turn, implies that scholars are thinking about bigger issues of distribution, curation, and representation.

Whilst these methods share similarities in the means of focusing on the computational aspects of the music itself, many scholars have highlighted music's ability to fuse into many aspects of the everyday life, and therefore have begun to question why categorisation and classification methods still use genre at all.

2.3.7 Getting rid of music genre

In contrast to the growing interest in digital techniques of music genre classification, there have been scholastic efforts to classify music using alternative methods, many of which entirely exclude genre as a tool. However, this is not a new concept according to Drott (2013) who highlights calls for the end of the concept of music genre to date back to the early twentieth century, with scholar Benedetto Croce arguing in 1902 that the interpretation of artworks through the sharing of musical or social features was misdirected (Drott, 2013). A modern example of research excluding the use of final genre categories was the socio-psychological study undertaken by Greenberg et al. in 2016, which chose to examine relationships between music tastes and user personalities. The specific reasoning given for the exclusion was the notion that genre-based theories and methods were hindering the study of relationships

between musical preferences and personality by not focusing on the “actual attributes that people perceive from music” (Greenberg et al., 2016, p. 597).

Nuzzolo (2021) states that emotional reactions to music are subjective, therefore the results will never be universal. Examples of research which embody this statement include Bhat et al.’s (2014) proposal of an algorithm which could recognise the mood or related emotions of any music piece by forming linkages between the music’s spectral and harmonic features and humanistic perception of music and associated moods. Using audio feature extraction, musical traits are studied in order to classify the songs’ mood based on Thayer’s mood model. As displayed in Figure 8, the features examined include timbre, rhythm, pitch, and intensity (Bhat et al., 2014, p.359).

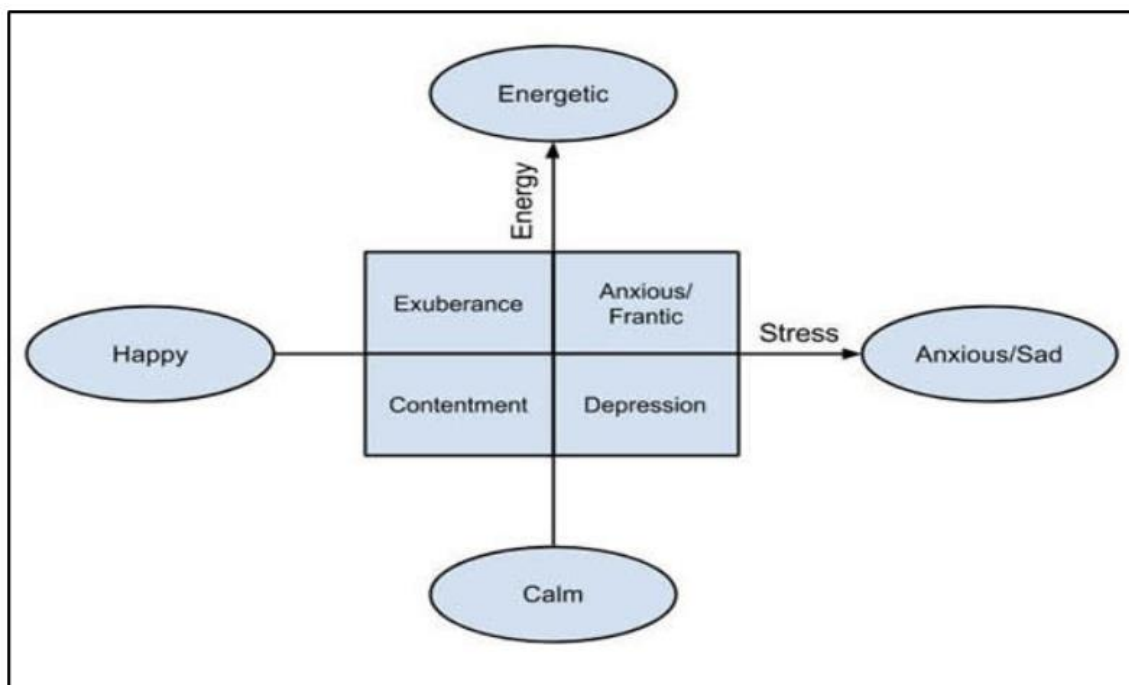


Figure 8: Thayer's model of mood (Bhat, 2014, p. 359)

The features are then compared against specific threshold values using neural networks before being categorised into contexts of different moods, resulting in specific labels being assigned. The method itself analyses various features of any given music piece, before categorising it as a specific mood. Table 2 shows the resulted patterns created by the experiment for each mood.

Table 2: The summary of mood influenced by various features of a music wave (Bhat, 2014, p. 360)

Mood	Intensity	Timbre	Pitch	Rhythm
Happy	Medium	Medium	Very High	Very high
Exuberant	High	Medium	High	High
Energetic	Very High	Medium	Medium	High
Frantic	High	Very high	Low	Very High
Sad	Medium	Very Low	Low	Low
Depression	Low	Low	Low	Low
Calm	Very Low	Very Low	Medium	Very Low
Contentment	Low	Low	High	Low

The use of Thayer's model and the broadness of their labels suggests that intentional room for ambiguity was made in this research, highlighting the complex subjectivity of mood response to musical material. In particular, the paper classifies both western and Indian Hindi film music, taking into consideration, a database of over 100 songs in total. The efficiency of this method was found to reach 94.44% at the best, raising questions of repetition at scale.

2.3.7.1 Questioning Music Genre in the Modern Music World

It is important to understand why the processes of this approach are being facilitated, as the popularity of these studies suggests wider support for the argument that genre-focused approaches to music categorisation hampers modern research and development. Instead, these scholars champion more intuitive systems for the modern 21st century listener, and the digital platforms to which they subscribe and use. The recurrent exploration of this argument, these research studies and the accompanying results consequently raise questions surrounding the current state of genre and its suitability for the future music industry and consumer. Is music genre outdated and needing replaced through contemporary practices of music categorisation? Or can music genre amorphously expand its borders enough to

accommodate interdisciplinary questions of what can be considered a music genre through collaborative industrial effort? In relation to the rise of interest in this digital subject, music streaming platforms boast an immense catalogue of accessible content which can be accessed anytime from any compatible device with an internet connection. This large quantity of information makes it possible for scholars to not only explore the impacts of streaming, but also to test and improve pre-established processes.

With growing intangibility and streamlined presentation of music platforms, questions surrounding the place of genre are raised. However, according to Quinn (2002), the prominence of matters such as identity and authenticity, two factors which are strongly tied to genre, cannot be denied: with scholarly suggestion that the entirety of popular musical genres can be interpreted as historical efforts to maintain a sense of authenticity and hold over the past. According to the author, these efforts that are frequently discounted as the genre's inhabitants disappear over time (*ibid.*). However, it could be argued that music streaming platforms counter this issue of erasure by containing vast amounts of music frozen in digital spaces, which may have otherwise been lost over time in physical forms. This branch of thinking opens up further debate surrounding licensing and ownership which is currently outside the scope of this specific work.

2.4 Categorisation and Classification

In reflection of this scholarly work on the importance of media, music listening and genre trajectories, two factors which influence the continual popularity of physical media collection and music genre culture are the practices of categorisation and classification. The processes which accompany categorisation and classification are extremely central to how we understand human cognition: without them, mental life would be difficult to navigate (Smith and Colunga, 2012). However, scholars of Library and Information Science (LIS) communicate that the existing relationships between these processes are often subject to exaggeration. In an examination of the difference between the two concepts, Jacob (2004, p.515) emphasises the significance of “systemic properties and forms of interaction”, which are responsible for embodying and revealing the major differences between the structures of classification and categorization systems within a syntactic context. However, it is noted that these concepts are not symmetrical reflections of each other due to pre-established differences which produce meaningful differentiation within the contexts in which information is captured and processed (*ibid*; Smith et al, 1981). These key semantic and structural dissimilarities between

classification and categorisation affect the information landscape dramatically by impacting the functions and behaviours of information systems, reinforcing the establishment and understandings of information environments.

2.4.1 Categorisation

Understanding the themes of classification and categorisation is essential to comprehending ways in which music has both adhered and transformed within these systematic confines, even more so on a digital level. According to Jacob (2004), ‘categorisation’ is the process of separating identified world entities (human or otherwise) into related groups which share some form of connection. The acknowledgement of shared similarities across objects/items and this grouping of related entities into appropriate categories results in the realisation of systematic order, in what can potentially be complex landscapes. Without categorisation skills, our everyday environments would become extremely complicated, as every object would be considered as completely unique. (ibid; Smith et al, 1981). Therefore, it can be suggested that the act of categorisation is one of creation (of groups), rather than identification (of entities). The “classical theory of categories” is a belief that categories are defined by a set of established rules. This simplistic theory relies on three effective core principles (Jacob, 2004):

1. The intension (internal concept) of a category is summarising the representation of a whole category of objects.
2. The important features that encompass these internal concepts of a category are independently indispensable and jointly necessary to determine an object’s categorical membership.
3. If category (A) is found to exist within superordinate category (B), the qualities that define category (B) are present within the sets of features that define objects within category (A).

Reflections of these pre-established principles appear in modern scholarly discussion on categorisations, as shown by Worthy et al. (2020), who explains that objects tend to overlap into multiple categories, which can be troublesome. However, hierarchies are usually established to address this, aiding with the arrangement of conceptual representation. For example, Worthy (ibid.) depicts a triple tiered hierarchy and what it means for a concept at each level (as shown in Figure 9).⁵

⁵ Each tier has been assigned a musical example for the purpose of research relevance.

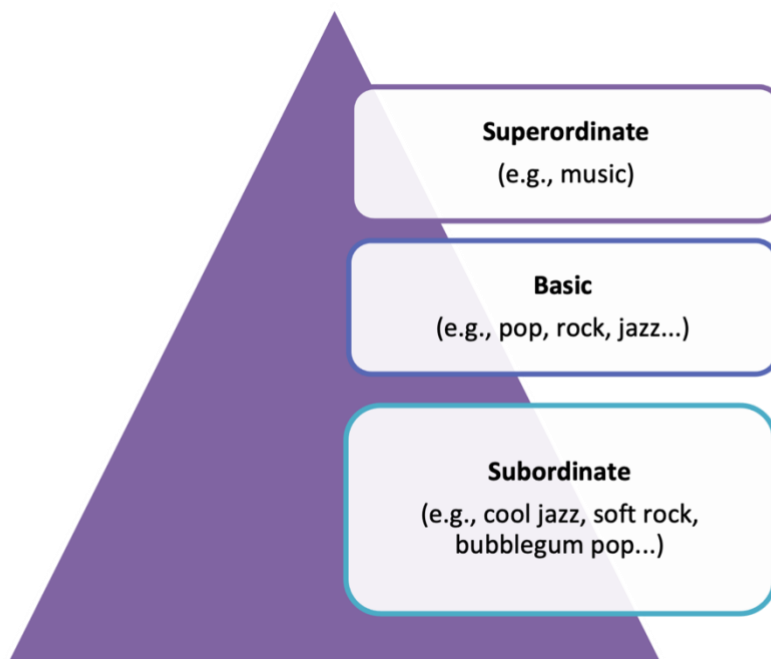


Figure 9: A proposed triple layered hierarchy, featuring descriptions at each level (Worthy et al., 2020). Musical examples have been added at each layer to provide relevant context to my research.

1. **Superordinate** level concepts belong at the top level of the taxonomy and hold high levels of generality.
2. **Basic** level concepts are found within the generic levels and contain the most striking differences.
3. **Subordinate** level concepts are found to be very specific and are not generic.

The presented scholarly discourse around categorisation rules and regulations suggests that an absence of categorisation principles within the musical landscape would result in either a separation of all musical materials and products, or a mass merging of all musical artefacts, cultures, and identities. An active avoidance of scenarios such as these reinforces the need for the additional existence of musical classification systems.

2.4.2 Classification

According to scholars of LIS, 'classification' refers to three descriptions which are both separate and linked (Smith et al, 1981):

1. Arrangements of classes which are ordered systematically in agreement with a set of pre-established rules and used in tandem to arrange other sets of objects.

2. A class or cluster belonging to a classification scheme.
3. The system of assigning objects into classes within a specific scheme of classification.

However, only one of these descriptions (#3) is found to feature in Jacob's (2004) extensive writings on both classification and categorisation. He proposes that 'classification' is the term which best describes the systematic organisation of distinct units into one precise class within an established structure of uniform classes which are exclusive and do not overlap (ibid.). Classification is carried out in accordance with pre-established rule sets, resulting in direct control of class and relationship arrangement, and with constant adherence within the confines of an established understanding of reality, the creation of security. However, the purpose of classification is to construct order, with its artificial construct's existence based entirely on the subjective perception of the domain utilising it (ibid.).

This brief overview of categorisation and classification demonstrates a scholarly importance in their key distinctions and implies that universally agreed standards allow for the 'correct' interpretation of all entities. However, the certainty of these previously mentioned rulesets raises further questions as to the roles and accountabilities of music classification and categorisation not specifically mentioned in these deliberations but found to feature in texts from ranging disciplines.

2.4.3 Categorisation and Classification in Music Streaming: The Playlist

Subsequently, these discussions raise even further questions surrounding the ability of traditional genre to successfully classify and categorise musical tracks on a global scale to match the growing expanse of music streaming platforms such as Spotify, whose platform houses over 4 billion playlists (Dean, 2021). Spotify also allows the user freedom to create and curate a personalised space for their music listening (aided by platform algorithms). According to Hagen's (2015) research, music streaming platforms introduce fresh curation practices surrounding the digital activities of both playlist generation and music categorisation. However, the author gives credit to the art of traditional physical music collections for the method adopted by streaming platforms.

"User control motivates different playlist practices that demonstrate new ways of collecting music via streaming services but also derive from pre-digital collecting." – Hagen (2015, p.1)

Not only does this statement echo agreement with previously discussed literature in section 2.2 regarding the ongoing popularity of physical media, but it also aligns with Zhong et al.'s (2013) previously discussed description of online structured curating, where users intentionally engage with active categorisation. However, Morris and Powers (2015) argue against these positive ideas, citing the user's idea of being a free-acting agent in the process of musical discovery is one of pure illusion, asserting that the user's role of curation is mostly delegated to the system's complex algorithmic recommender system. Yet this assertion is challenged by work from Jones (2002) who questions the need for a collector's rituals be assumed to be exclusively connected to the domain of a particular musical format. The author further rationalises that music, alongside its place in a collection, is no longer limited by medium or location, but instead by the collector's own mentality. This stance is supported by the previous examples of writings which encourage vinyl owners in digitising their collections in the name of preservation (Shacker, 2011).

Whilst the practise of physical music collection aims focus on the process of hunting for rare items in potentially scarce landscapes, playlist curation involves the user implementing their knowledge and ideas upon an immaterial dominion of supposedly limitless parameters. It is suggested that this type of curation is similar to the act of CD burning or and mixtapes creation in how consumers are able to take one or multiple musical tracks from albums and recategorize them within new settings and structures. In doing so, the original intentions and creative narratives of the artist and their album are removed (Hagen, 2015). However, unlike most physical music mediums, the digital playlist is a rented meta-medium, not containing tangible music within itself. Instead, the playlist acts as an interactive signpost or request for music, which is then provided by the service in question, only being taken away once the subscription ends (Skågeby, 2011). The significance of music streaming playlists and their rented existence may highlight questions surrounding the true importance of permanent physical and digital collection in this era of streaming, as this is an important historical distinction between music streaming platforms and previous musical mediums (Hagen, 2015).

2.5 Music Streaming Platforms

Across the creative and cultural industries, streaming has been adopted in mass movements, resulting in research that not only investigates the impact of streaming on industries such as music, but also film, art, and literature. Within the music industry, new business models had to be developed that were able to compete with piracy, igniting an evolutionary trajectory which

has resulted in the present-day popular music streaming models (Wikström, 2015; Eriksson et al., 2019). According to Morris and Powers (2015), streaming is not only a method of data transmission, but a key metaphor for information exchange in our present digital age: with online streaming organisations championing their audiences who have moved away from older consumption practices to engage with music streaming, which is marketed as the method of minimalistic, streamlined musical engagement.

2.5.1 Reported Growth in Music Streaming Usage

In 2020, IFPI (2021) reported that streaming held a 62.1% share of the global music revenue. This comes partially as consequence of the Covid-19 pandemic's effects, with music venues around the world being closed due to distancing measures. This is reflected further by a decline in performance rights (-10.1%) and in physical media revenue (-4.7%). The growth in streaming revenue by 18.5% therefore does not come as an unexpected result (IFPI, 2021).

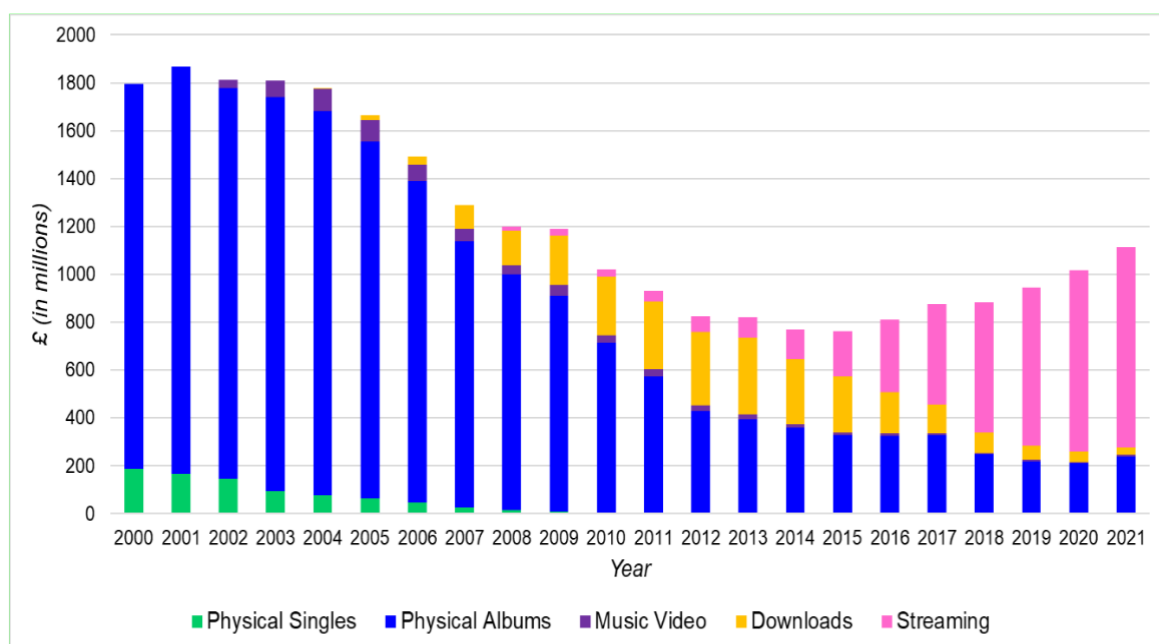


Figure 10: UK inflation-adjusted recorded music revenues between 2000 and 2021 by format type. Analysis provided by CMA from BPI provided data (CMA, 2022)

As shown in Figure 10, the popularity of streaming engagement within the industry has grown consistently since its inception in 2008 (CMA, 2022). From the statistics shown, it would be consequently rational to expect a shift in the balance of power. In 2019, this shift was

confirmed by ex-CEO of Sony, Martin Bandier's, reflections on the transition from artist-based brands and content owners to access-based music platforms.⁶

"The music business used to be a relationship business but... the power has shifted from the heads of record companies to streaming services. Now it's important to know Daniel Ek [the CEO of Spotify]" - Martin Bandier (Nicolaou, 2019).

This shift in popularity is further reflected by statistics showing that in 2021, users spent 18.4 hours a week listening to music and 46% of recorded music revenue was from subscription-based audio streams (IFPI, 2021; IFPI, 2020). These platforms have cemented themselves into the everyday lives of consumers through a number of design, access, and marketing initiatives.

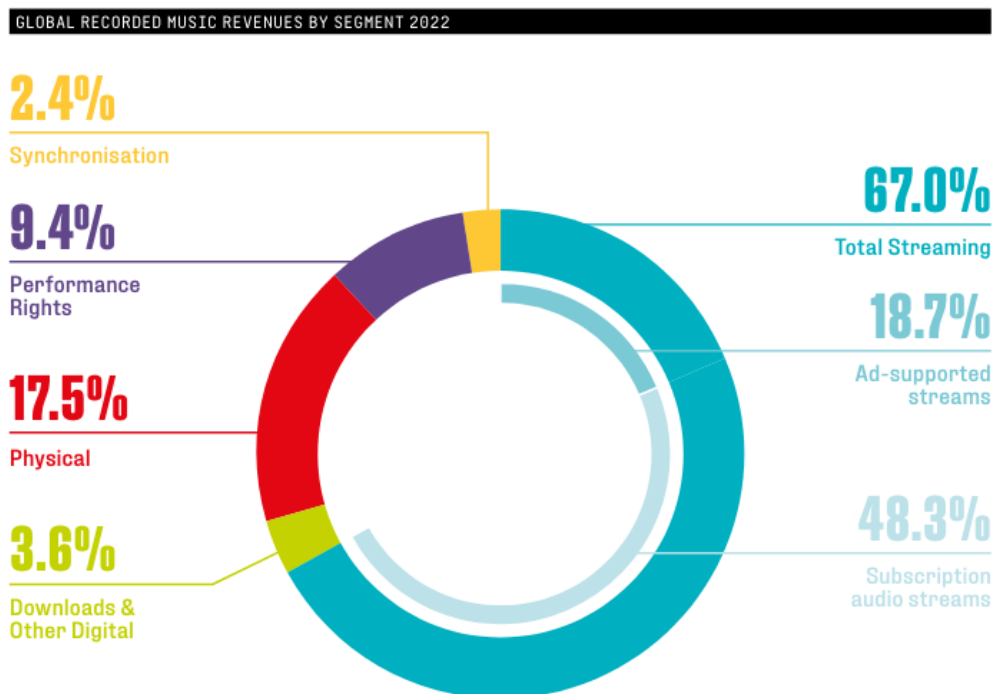


Figure 11: A chart taken from IFPI's 2023 Global Music Report showcasing a breakdown of user engagement statistics (IFPI 2023)

This chart from IFPI (2023) shows not only a more granular breakdown of music listening but also makes clear the popularity of music streaming in comparison to other modes of music engagement.

⁶ Bandier was the CEO of Sony/ATV for much of the 2010's decade.

According to Eriksson et al. (2019) the term ‘platform’ implies a view of services like music streaming as techno-economic structures, making it clear that a relationship between economics and computation is the foundation of most platforms, where the user acts as a mediative figure. In reflection, the authors state that to properly investigate platforms, scholars must consider a triple input of user experience, technology, and finance (ibid.). However, this can be made difficult due to platform infrastructure.

2.5.2 Socio-technical Influence of Streaming

This reported mass shift to online platforms for music listening and engagement is often referred to as ‘platformization’ (Morris, 2020). Many scholars argue that the distribution and sharing of music in ‘platformization’-based manners, has led to streaming platforms becoming extremely influential on varying social levels. According to Webster (2020), these platform technologies are ‘tastemakers’ which challenge pre-existing social interactions surrounding music consumption, circulation, and discovery. The considered impact of music streaming platforms on social behaviours are part of a collection of events which create what Pfaffenberger (1992, p. 505) theorises as the ‘technological drama’, describing eras of concentrated socio-technological evolution and their revolutionary attributes. These ideas are also reflected in Spilker’s (2018) urging of scholars to view music streaming services as black boxed, non-transparent objects and the spaces around them as non-linear. He further encourages academics to interpret both the development and seizure of technologies as an act of mediation between human and non-human actors, through the acknowledgement of different power and objectives (a method of examination derived from the foundations of Science and Technology Studies (ibid.)). In contrast to this idea of mediation, Morris (2020) instead understands this overarching shift as the optimisation of culture.

“...we are now witnessing the platform-specific tactics that emerge in an era where software and platforms govern the discovery of cultural goods and content” – Morris (2020, p. 7)

In contrast to this argument, which focuses primarily on the slow domination of technology in the cultural realm, Hagen (2016) chooses to draw from the more grounded perspective of affordance theory to interpret the exchanges between socio-technological arrangements and interactions occurring during the streaming of music. In an investigation of the effects of cloud-based streaming means on individual music listening, Hagen (ibid.) identifies three specific circumstances critical to the success of streaming: music abundance, social network

structures and intangibility. These conditions comprise a user's habits of listening, which are subject to change dependent upon the contextual and emotional frames which are condensed through Hagen's suggested triple-lensed relationship of "music-human-technology" (Hagen, 2016, p. 199). In a later study, Hracs et al. (2020) echoes this viewpoint in their examination of streaming strategies and how the organisations have showcased an acknowledgement in the value of the social experience, by shifting in focus from standard business strategies of price and content/curation to the manufacturing of captivating experiences that emphasise the interconnected natures and benefits of 'platformization' (ibid.). Does such a shift in focus and marketing imply a paired corporate and societal change in understanding what it means to experience music?

As a field, music streaming research is continuously expanding, with new contributions surrounding the impacts of streaming platforms on users, spatiality, and social influence, demonstrating a rise in scholarly recognition regarding the importance of these socio-technical systems and the practices which they influence. Based on the scholarly contributions within this section and the adaptability of music streaming within the everyday environment, the previously mentioned ideas surrounding the impacts of social dimension on the existence of genre can be reapplied and expanded to include the context of these socio-technical systems and their influences. Their mass popularity reinforces the importance of understanding these systems and how their design and placement within society impacts pre-established means of musical representation and how this in turn affects those who use these systems.

2.5.3 The Importance of the Interface

According to Eriksson et al. (2019), graphical user interfaces are designed to hide all obstacles to downloading/file sharing with very little technical skill or interaction needed from the user end. However, this design specification does not mean that users are unaware of the required modifications which exist to ensure their seamless digital music listening experience. In comparison to the experience of physical medium listening, input is constantly needed from digital users to better feed the algorithms at work. According to Morris (2020), music listening itself has been transformed into a multi-mediated computing experience. The concept of music as software has allowed for the creation of a new technological relationship to previously established processes of the musical journey: search and discovery, listening, liking, exchanging, or buying music. However, the author states that this advancement in technology, interface design, and processing has not necessarily made users wiser to the overall bigger

picture regarding the impact of streaming platforms on various topics: the music industry, the rights of users and the way their data is collected, the impact on artist rights and remuneration, and the power that these platforms hold.

Spotify is used as example by Eriksson et al. (2019) to showcase how the simplistic black interface background taps into users' awareness in a way that brings all attention to the visually contrasting content. Therefore, a user's attention has very little distraction when browsing through the platform. This aligns with previous research seeking to understand how platforms seek to capitalise on the currency most important to them: attention. The mention of Netflix in Wikström's (2020) predictions of Spotify also alludes to a media-wide focus on the commodification of art and culture – by transforming these artefacts into subscription packages, users are offered limitless access to cloud-based media.

“As long as it has access to capital to support its growth and is able to exploit its strategic relationships it [Spotify] may be able to emerge as the Netflix of the market for access-based music platforms” – Wikström (2020, p.95).

This viewpoint was reflected in the examination of subscription models over a decade earlier in the work of Wang et al. (2005). In this article, the authors identify a number of factors which makes the subscription model so attractive for users, making them more likely to subscribe:

- Perceived convenience.
- Essentiality.
- Added value.
- Perceived quality of service.
- Frequency of use.
- Perceived fairness (towards the user).

In addition to these factors, a complimentary theory surrounding the digitalisation of music and music streaming's 24/7 access, is the “post-fidelity” attitude in which Katz (2010, p.164) proposes that users of streaming services trade the quality of musical sound for sheer quantity of resource, which they have unlimited access to within their digital libraries. In this pay-off for lower quality audio, users have access in abundance with ease, speed, and on a larger scale than ever before.

Furthermore, the rise in streaming's popularity and sophistication has happened in conjunction with the crucial development and ongoing evolution of smartphones which have now evolved to

function as all-in-one tools with which we organise, entertain, and communicate within our daily lives, with the average user spending over four hours on their smartphone according to research from Kemp (2022). Through interactions, smartphones relay differing metrics and data points to application owners, allowing streaming organisations to not only lower the barrier between music streaming and user, but also to build clearer caricatures of their consumers and create more attractive streaming environments and accurate recommendations (Prey, 2016). The provision of mobile streaming allows music consumers to have access to greater musical freedom and flexibility, raising further questions around how streaming may impact the daily behaviours of users within the context of this user-to-device relationship.

A continuation of studies in musical formats, MP3's influence has been raised in previous studies into older technologies like the iPod. Bull (2005) states that mobile listening, enabled by new MP3 technologies, gave users a seemingly unprecedented level of control over their subjective experiences of environments and time. This was achieved by users being able to manage their state and environmental orientation through the curation and micro-management of tailored music. However, Gay et al., (2013) comments on the effects of devices in a more critical tone, discussing the blurring effect that the Sony Walkman had on the conceptions of what objects and acts belonged in the public and private spheres. This was an important moment in music history, as the mostly private act of music listening was lifted out of its perceived habitat and placed into the public order, prompting what Gay et al. (ibid.) describes as an offending of pre-established social order. In reflection of this rejection, it is clear that attitudes towards the inclusion of technology in the everyday grows more tolerant with the advancement in portable mobile technologies.

2.5.3.1 Metadata and Distribution

When examined operationally, music streaming services are powered by specific informational data which connects them: music metadata (the term assigned to data about music data). As shown in Table 3, there are three types of music metadata: descriptive, ownership, and recommendation. According to Pastukhov (2019) both descriptive and ownership-based metadata are known as 'objective types' as there can be only one real title and list of song credits, whereas recommendation metadata is at its core, subjective and relates to how music sounds. However, previous research and coverage on the practical application of metadata within the music industry showcases a complex web of information management issues around creation and coherence (Brooke, 2014). An example of this is the common issue of organisations across the industry capturing and processing metadata which differs in

incremental variations (e.g., the spelling of titles, credits, and/or artist names) (Yasgur, 2013; Brooke, 2014). This causes coherence issues regarding unification and can lead to further problems with stakeholder remuneration processes and distribution within the digital value chain (DCMS (a), 2021). These ongoing issues bring into question the accuracy around Pastukhov's (2019) statements around objectivity and subjectivity.

Table 3: A table detailing the types of metadata attributed to music streaming platforms (Pastukhov, 2019)

Type	Function	Uses/Party of Interest
Descriptive	Details the contents of a recording	<ul style="list-style-type: none"> • Title • Track number • Genre
Ownership	Details the parties and their appropriate contractual splits for remuneration purposes	<ul style="list-style-type: none"> • Artists • Labels • Producers
Recommendation	Subjective data tags used to make connections between tracks	<ul style="list-style-type: none"> • Mood/genre tags • Similarity scorings

Unlike descriptive and ownership metadata which are generated at the artist's end, platforms like Spotify will have a different approach to generating recommendation metadata (either internally or by affiliates) and have their own databases. This is consequently due to streaming platforms placing the role of curation on comprehensively detailed algorithmic recommender systems (Pastukhov, 2019). Digital playlist metadata can be compared closely to music downloads, cassettes, and CDs in their sharing of covers containing song title, artist, and position on tape/disc/playlist. They can also be seen to share the similarity of offering users the opportunity of personalised categorisation and curation, regardless of tangibility differences (Skågeby, 2011).

2.5.4 Black Box Models in Music Streaming

The term black box originates from research within Science and Technology Studies (STS) and refers to a system “which no longer needs to be reconsidered, those things whose contents have become a matter of indifference” (Eriksson et al, 2019, p.7). Regarding music streaming services, the black box refers to the complex structure of networks and algorithms. According to STS, the larger the number of relations that can be black boxed (and consequently be made invisible), the more successful an actor’s growth can be. Therefore, this strategy of black boxing is often purposefully maintained by platforms to conceal industry secrets from competitors. This strategy is discussed in Vonderau’s (2019, p.1) more recent study into music-streaming platforms within the field of media and communications, resulting in the coining of what is known as the “Spotify effect”. This specific effect describes the organisation’s ability to ‘fold’ markets into each other: resulting in the company’s successful concealment of what Vonderau (ibid) refers to as an aggressive strategy surrounding financial growth; founded on the engineering of advertisement technology and maintained through the creation of an aura of Nordic nonchalance and public benefit. This blends into Negus’s previously discussed views on how the corporate culture of the music industry prioritises control – which would suggest that the Spotify ‘black-boxes’ their system to maintain top tier levels of control and management of the connections between the internal production, the external consumption, and the actors who utilise the system.

2.5.4.1 Inequalities and Bias

In efforts to maintain this level of control, these black-boxed practices hide the functionality of their algorithmic decision making, meaning that consumers and artists using the platform are unaware of the working behind decisions which are being made on their behalf. In recent years, these algorithmic processes on music streaming platforms have been subject to academic criticism for their abilities to allow (and even promote) different type of bias and inequalities.

A recent example of geographical bias in streaming was evidenced within a French study, which confirmed that recommendations from music streaming platforms were contributing to geographical bias, encouraging the dominance of American music on platforms (Lumeau et al, 2024). This means that local artists are therefore being excluded from playlists in their regions in favour of popular US artists with more streams. Gender bias within music streaming has also been explored academically, with research from Werner (2020) concluding that several gendered cultural patterns were found to be operating within Spotify through algorithmic

coding, leading to the consistent promotion of white male rock artists. However, it was stated by Werner (ibid.) that Spotify was actively working to challenge these stereotypes, but these were in isolated interventions that did not span platform-wide or reach the main coding of the platform, meaning that their impact was effectively minimal. In addition to discourse around bias relating to gender and geographical issues, safety issues have been flagged in recent years regarding streaming platforms and their policies around supremacist behaviour and misinformation. In 2022, an investigation by the Anti-Defamation League's (ADL) Centre on Extremism (CoE) identified over forty white supremacist artists operating on Spotify under the genre of 'Fashwave' (an extremist sub-genre of non-extremist genre Vaporwave) (Anti-Defamation League CoE, 2022).⁷ It is notable that this subgenre was acknowledged by Spotify's algorithms and even made into an Algotorial playlist. This investigation by ADL CoE (2022) was launched following an article published by the ADL's Centre of Technology and Society (CTS) criticising Spotify's lack of clear rules on prohibiting misinformation. This report was published due to an outcry from medical professionals at Spotify podcaster Joe Rogan's spreading of misinformation about the Covid-19 pandemic, resulting in 270 medical professionals signing an open letter to Spotify, encouraging the platform to act (Dickson, 2022). The findings from these examples show the impact that algorithmic bias can have on users when systems are improperly managed. These findings show that the effects of these powerful systems can range from smaller issues of misaligned tastes and promotion of unwanted music, to larger socio-cultural issues including gender biases; spreading of misinformation and hate speech; and geographical limitations. These larger issues caused by algorithmic mismanagement can lead to not only the exclusion of artists and users based on identity, but also threats to their safety and mental health.

Consequently, the shielding of proprietary data processes within (often unchallenged) black-boxed organisations (even in the face of resulting biases and inequalities) creates important questions around the data ethics of platforms, and why popular streaming platforms like Spotify continue to rise in popularity.

2.6 Spotify

Spotify was launched in 2008, beginning its operations in Sweden alongside five other countries. In just over a decade, its reach has grown to 60 countries with reports of around 188

⁷ Fashwave is derived from the word "fascism" (ADL CoE, 2022).

million Premium subscribers in the second quarter of 2022 (a substantial growth from just 18 million in the first quarter of 2015) (Goldrick, 2022). Spotify reportedly led in their Q2 of 2022 with the highest market share of with 31% of the total music subscription market which in 2022 totalled over 433 million Monthly Active Users (MAUs) (ibid.) These numbers have reportedly dropped incrementally over the years with the addition of new platforms into the market, but Spotify's maintains its lead over next big competitor Apple (Solsman, 2019; Statista, 2021). My research focuses specifically on Spotify as a result of its continuing dominance in streaming's music landscape and its global reach. This singular focus has also been applied due to the need to appropriately scope my work to designated funding and project timelines. To carry out further research on the parallels between varying streaming platforms creates a foundational base for future research.

Academically, it is common for Spotify to be simplified and regarded by many as merely an online music store, selling a tiered subscription of access to millions of albums and artistic works online (Johansson et al., 2017). However, Burkart and Leijonhufvud (2019) makes it clear that there is more to the act of music streaming than what meets the eye, even with regard to those who don't pay for the service. The free service distributes consistent snippets of advertisements to the group of non-subscribing users, ultimately benefiting advertisers who profit from the exposure and users who gain a version of access to the music catalogue. For labels and copyright holders, Spotify provides digital rights management (DRM) copy protections and offers detailed reports on the demographics and psychographics of its listeners (Burkart and Leijonhufvud (2019). This projects a double identity on to the world's leading music streaming platform with Eriksson et al. (2019) writing of the platform's acting as a private data broker, openly promoting its enormous collection of differing datasets as a service to marketers.

2.6.1 Spotify and Royalties Controversy

The provision of 24/7 access to such a massive catalogue would initially suggest that music consumers are the true benefactors by having access to greater musical freedom for a small fee. Consequently, this has encouraged scholars to further examine the effects of these popular platforms, with some findings reaching news headlines. An issue which has recently resurfaced to mass publicity and government attention is the question of the impact and economics of music streaming platforms, and how their remuneration principles affect various actors within the music industry.

2.6.1.1 Spotify and “Streamshares”

From a structural perspective, Spotify operates as a two-sided market which meets the supply of users’ demand. As a streaming platform, it has very low marginal costs of production and distribution and little transaction costs (Meyn et al., 2023). Due to the large volume of content offered, streaming platforms often compensate the content offered by content right holders by taking the revenue of the platform, subtracting a specific percentage for service fees, and then distributing the remaining money, which is defined as a “total royalty”, which is proportional to overall usage of the content of that right(s) holder (Meyn et al., 2023, p.115). This practice is commonly referred to as “streamshare” by Spotify and other platforms (Sherman, 2024).

However, a key issue is that Spotify’s generated revenue relies predominantly upon the number of subscribers, whereas the number of times music can be streamed is essentially unlimited.⁸ Additionally, not all artists hold the same level of rights as larger rights holders hold a greater percentage of the total market share. Therefore, a listener who streams a specific artist for 25% of the time does equate to the artist receiving 25% of that listener’s subscription fee (Sherman, 2024). In addition, Spotify has historically provided larger shares to record labels who are reported to consistently dominate the share of revenue. In 2020, the three major record companies (Sony Music Group, Universal Music Group, and Warner Music Group) plus Merlin jointly claimed 78% of total volume of global music streams on Spotify (a drop from 87% in 2017) (Ingham, 2021).⁹ This domination of revenue share means that signed artists to larger labels receive higher shares of royalty payouts and artists from small independent labels and unsigned artists are placed at a monetary disadvantage.

2.6.1.2 Previous Discourse Around Streaming Renumeration

Prior to this new wave of publicity, the issues around rights and royalties on music streaming platforms have been a subject of discussion for over a decade. Public debate on Spotify renumeration began in 2009, following reports that Lady Gaga had received a payment of only \$167 for hit track ‘Poker Face’, which had over one million streams. In 2012, Spotify’s chief content officer, Ken Parks, reported that Spotify pays out almost 70% of revenue to rights holders’ (Marshall, 2015). This figure was highlighted to showcase a similarity between Spotify and Apple who returns 70% revenue to rights holders for iTunes downloads. The figure of 70% is

⁸ Advertisement also assists the platform’s revenue generation on a small level.

⁹ Merlin represents a collection of the world’s most powerful independent labels and has previously been referred to as a “major” label partner by Spotify (Ingham, 2019).

also a historically conventional allocation of revenue in the record industry (ibid.). Therefore, Spotify has historic evidence of showing efforts in paying rights holders a common rate for rights to use music. However, critics continue to argue that these models and remuneration structures are ruining the future sustainability of music.

2.6.1.3 Recent Attention and Reports

More recently in March 2020, The Trichordist (a collective of artists who campaign for ethical and sustainable Internet for music creation and consumption) shared their 2019-2020 'Streaming Price Bible' which revealed that Spotify generates \$0.00348 per stream (a rise from \$0.00331), paying out approximately \$3,300-3,3500 per million plays (Trichordist, 2020). In October 2020, an inquiry by the department of Digital, Culture, Media, and Sport (DCMS) was conducted to consider the level of impact that music streaming has had on creators and companies that comprise the music industry (DCMS, 2021). The inquiry also sought to examine the long-term sustainability of the industry under these current conditions. In 2021, amidst the disruption of the Coronavirus pandemic, DCMS published the evidence and insights discovered by the probe which contained over 300 pieces of written evidence submitted by a range of stakeholders within the industry (ibid.). Alongside this, several oral evidence sessions were held which allowed for the committee to hear from performers, songwriters, composers, music companies, trade bodies, collecting societies, government ministers and streaming platform spokespeople. A series of roundtable events were also hosted for emerging artists to have their say where several concerning issues were highlighted, including the fear of repercussion for speaking out about their platform-based experiences (DCMS, 2021). Considering this large volume of qualitative and quantitative evidence, the published report concluded that although music streaming had undoubtedly aided the music industry to bounce back after decades of digital piracy, its current model and delivery does not work equally for all.

“The issues ostensibly created by streaming simply reflect more fundamental, structural problems within the recorded music industry. Streaming needs a complete reset” – DCMS, 2021

However, a separate report published in late 2022 by the Competition and Markets Authority (CMA) (following an intensive investigation into music and streaming), alluded to a more neutral impression of music streaming's impact on artists (CMA, 2022). These insights are also reinforced by BPI's 2023 article which states that their analysis of the streaming landscape indicates that platforms are helping artists “flourish more than ever before” (BPI, 2023). Yet,

surrounding these reports, artists at all levels remain firm in their efforts to bring global attention to the low levels of remuneration received from these platforms. In 2023, the Austrian entry for the annual Eurovision Song Contest (“Who the Hell is Edgar?”) highlighted the challenges of female writers and the \$0.003 royalty rate which artists receive per each listen of a track:

“Zero dot zero zero three

Give me two years and your dinner will be free

Gas station Champagne is on me

Edgar cannot pay rent for me...

... Zero dot zero zero three

At least it pays to be funny” – Teya and Salena (Eurovision, 2023))

Following this most recent publicity, in 2023 Spotify announced intentions to cease payments for tracks that have less than 1000 streams. Spotify’s Vice Chairman and Global Head of Music Product, Charlie Hellman, stating that songs under 1000 streams only generate a few cents and that withdrawal fees (commonly featured on distribution sites) would wipe out these royalties. Hellman made clear in this interview that the focus was to direct money to those who were making a real effort to build a musical presence on the platform.

“All those pennies sitting in bank accounts all over the place was siphoning money away from artists that were really doing this, as an aspiring professional...those royalties are now being put in the pot so that they can be redirected to artists that are getting more than a thousand streams a year” – Charlie Hellman (Sherman, 2024)

While the majority of public discourse around music streaming has focused on pay rates, professionals within the music landscape assert that other certified organisations deserve criticism in their contribution to the systemic issues present (Robinson, 2024). Performance Rights Organisations (PROs) which are responsible for collecting and distributing music royalties for public performances (e.g., radio, live performances, streaming) were found to only distribute 60-80% of the collected royalties in a 2021 report published by Music Managers Forum (MMF). It was found that the remainder of the royalties contributed to the PROs operating costs, with interest on held funds making up large portions of the expenses (MMF, 2021). This creates several issues:

- Delayed payments taking months (and in some cases, years) to reach artists
- Lack of transparency regarding rights and royalty calculations

- Inaccurate allocation and distribution based on PROs using sampling methods to estimate royalty distribution that misrepresent streaming data and place independent artists at a disadvantage (Robinson, 2024).

Although these arguments, ongoing protests, campaigns, demonstrations, and reports have highlighted key issues and disagreements in areas around artist impact, economic trends and industry longevity, there is a notable absence of similar reports which group together the experiences of non-creator-based consumers of these platforms. The absence of effects on this group of users leaves much to be questioned, as it could be inferred that the usage power held by streaming platforms is further bolstered by monthly active users who rely on the on-demand access provided by their subscriptions.

2.6.2 The Continuing Influence of Spotify

In spite of these historical and recently published controversies, it is notable that Spotify continues to dominate the Western listening landscape even in the face of growing digital competition and evolution. In the third financial quarter of 2023, Spotify reportedly held a 31.7% share of market revenue, harbouring significantly more users overall than its competitors such as Tencent Music (14.4%), Apple Music (12.6%) and Deezer (9.3%) (Tadesse, 2023; Statista, 2024). While reports do show that Spotify's market share is being eaten into each year due to the rise in popularity and technical offerings of other streaming platforms, of the 713.4 million users who have a music streaming subscription, Spotify currently holds a vast majority of 226 million (Tadesse, 2024).

In researching how Spotify has generated such a wide margin of popularity, scholars have proposed a variety of factors which showcase benefit from both market influence and user-end interaction. Zhang (2023) suggests the following responsible factors which focus on satisfying user needs:

- The continual bundling of Spotify with other technological services.
- Spotify's investment in podcasting in alignment with the medium's rise in popularity.
- Spotify's range of membership options.
- Spotify's intense focus on recommendation and discovery features.

From a broader perspective, Spotify's trajectory of both user and market growth has also been boosted through the rapid adoption of digital forms and cloud-based streaming of previously physical artefacts by society over the past decade (e.g., books, films...), in addition to the

growing relationship between products, applications, and mobile technologies (Prey, 2016). Such reasoning would align with previously mentioned perspectives of the human-streaming interaction. By viewing these interactions through Hagen's (2016, p.199) "human-music-technology" relationship, it is evident that users assign uniquely individual roles to music through the use of these platforms, making it easier for these platforms to be integrated into the everyday life.

"It illustrates how music for personal use is currently highly portable, but also fluid, and a pervasive companion in wider cultural activity" - Johansson et al. (2017, p. 1).

Another explanation involved in the rise of Spotify's popularity lies in its interface presentation. Although the platform is constantly updating its features and appearances (arguably in order to streamline user experience), the platform maintains what is described as an "aura of Nordic cool" which successfully conceals a previously mentioned aggressive growth and marketing strategy through black boxing (Vonderau, 2019, p.3; Johansson et al., 2017, p.86).

2.6.2.1 Spotify's 'Smooth' Factor

This sleek, streamlined, and multi-device service fits directly into Ted Gioia's musical contextualisation of 'the smooth' theory (originally drawn from philosopher Byung-Chul Han's critique of music "poptimism") where the rough and unique edges and appearance of an entity and its experience are filed down by marketing and moulded into a shiny, popular one-size-fits-all manner that blends in with the other popular artefacts of that time period (Gioia, 2019, p.455).

"The songs recommended for you next week will resemble the songs you enjoyed last week— hardly a promising approach for disruptive change, but what could be smoother?"- Ted Gioia, (2019, p. 457)

This envisioning of 'the smooth' can successfully be applied to streaming platforms like Spotify in regard to how they uploaded music files into algorithmically friendly material for their recommender systems, in order to be utilised on a global scale. However, the platform aims to convince users that its focus lies in the art of personalisation for their listening pleasure.

2.6.3 Personalisation: Algorithmic Intermediaries

As a platform, Spotify leans heavily on the concept of user personalisation, utilising a black boxed formulation of proprietary and complex recommendation systems to provide users with

relevant musical material, based on the user's previous interface interactions (Eriksson et.al., 2019; Spilker, 2018; Gioia, 2019). In 2014, Spotify purchased the powerful music intelligence platform known as the Echo Nest for 49.7 million euro in what was seen as a direct move from Spotify's to elevate its musical service and control the service which was powering competitors (Etherington, 2014).¹⁰ Whitman's (2005) work on music recommendation and contextualisation within signalling was highly influential, showcasing that musical expression could not be captured by signalling alone and instead relied compiling further contextual metadata such as description, community data, genre data, popularity and other external semantics around the music.¹¹

This purchase has allowed Spotify to not only apply Echo Nest popular algorithms, but to build on this work to further enhance user experience and music discovery for Spotify's millions of users throughout the years.¹² However, according to Johansson (2017), the now resulting impact of these systems is the promotion of certain values and identities over others, with music files being contextualized in a range of different ways: through playlists and other classificatory systems, through visual and textual elements of the interface, and through recommendations delivered to particular groups of users. The primary output of Spotify's personalisation features takes the form of 'Algotorial' playlists (Barthle, 2023). This term is used to define an algorithmically personalised playlist which is maintained by a human curator. This presence of human and algorithmic collaboration is what separates Spotify's Algotorial playlists from their Editorial playlists – as Editorials are owned and curated exclusively by human employees labelled as Editors (ibid.). The emphasis on recommendations and these Algotorial playlists illustrates how Spotify, similar to other digital content providers, not only delivers music, but also actively frames and shapes music through data. In this action, it can be seen that Gioia's (2019) idea of musical smoothing and filing is reinforced. Such operations are central for turning digital music into goods but are also reflectively important to understand from the academic perspective, as these digital intermediaries also constitute a politics of

¹⁰ The Echo Nest was founded upon the dissertation work of Brian Whitman and Tristan Jehan in 2005 at the MIT Media Lab.

¹¹ While Whitman's work has played a key role in developments within the field of MIR, a further analysis of his work's role in present music streaming practises would be better suited to a separate piece of work – due to the specific aims and scope of this thesis.

¹² One year after purchasing The Echo Nest, Spotify launched the flagship music discovery playlist 'Discover Weekly' (discussed briefly in section 4.1.1.1).

content: through which the delivery of music implicates prescriptive notions of the streaming user and potentially shapes their future listening practices (Webster, 2020).

2.6.4 Playlists: The (Rented) Digital Collection

Within such large systems like Spotify, the previously noted definitions and purposes placed upon genres mentioned in section 2.2 can be challenged in present day platforms, where musical genres overlap and exist disparately within a user's music library and listening habits. This suggests that the fluidity embodied by streaming platforms has the power to change how people express their musical tastes within the 21st century, due to the removal of the physical barrier between expression, spatiality, and consumption.

Unlike the previous strategies used by the music industry to govern physical music mediums (as discussed in section 2.1), Spotify users are encouraged to engage with music in different practises (Taylor, 2016, p.145). A popular feature is the user's freedom to create and curate a personalised space for their music listening (aided by platform algorithms) in the form of playlists. Spotify encourages its users to create their own unique playlists and listening habits in order to catalogue their favourite songs and power the accuracy of the platform's recommender system in the name of personalisation. However, the platform's algorithmically optimised machine learning techniques also offer the user a unique collection of assembled playlists as a way of compiling the user's favourite tracks. Webster (2020) explains that these methods boost interaction on the platform and further refine the algorithms in regard to user tastes, thus aiding both the user and the Spotify algorithms in navigating the musical abundance within Spotify's massive catalogue.

For users who wish to take a more active role in interacting with their musical catalogues, these online acts of curation and cataloguing are described by Zhong et al. (2013) as online collections: in which active users are turned into official online curators, by selecting pre-existing content from online platforms, allowing them to manipulate and create personal editorial interpretations. However, if the action of compiling and manipulating collections of music streaming playlists were examined in the context of Baudrillard's (Elsner and cardinal, 1994) work on the act of collecting, it could be argued that users are simply gatherers, rather than collectors.

In attempts to understand why users utilise streaming platforms to collect and curate, Liu et al. (2016) offers that curation is a model and system which grants reprieve to the online issue of

overwhelming information abundance. Given Spotify's current intake of over 60,000 songs a day, it is clear that a system of control can aid users in feeling more in control of their musical experiences within the platform. Liu et al. (2016) further explains that personal activities like music streaming curation vary in levels dependent on subjective technological skill sets and/or contextual, musical knowledge. Hagen (2015) takes this level of constraint further, mentioning that a user's personal and/or social variables (e.g., age, sex, class...) will also influence the creation process. The pre-existing association with differing music subgenres and culture is an additional musicological factor. These ideas of users becoming online curators reinforces Webster's (2020) aforementioned explanation of how streaming platforms like Spotify improve and differentiate user engagement by deploying machine learning tools to aid consumer creativity and platform navigation. However, it is worth noting the distinct differences between Webster's positive tone when discussing use of recommendation technology versus the previously viewed critical attitude of academics like Zuboff (2019) and Eriksson et al. (2019). Where one scholar views it as a necessary tool to 21st century technology, others arguably perceive surveillance, profiling, and manipulation of the wider digital audience.

2.7 The Interoperability of The Virtual Audience and Platforms

In order to understand the impact of music streaming on user opinions of music, it is responsible to acknowledge the ways in which users interact with these platforms as virtual audiences and consumers. When examining the audiences and consumers of these evolved virtual platforms, Rambarran (2021) examines the etymology of 'virtual', concluding that there is no concrete meaning for this particular term. Instead, the author must choose from a number of meanings derived from both Middle English and Latin. He author goes on to further dissect the etymology which reflects the word's complex and vast coverings, giving sense to an alternate space:

“However we may read it, the virtual does appear to be directing toward the
“potential” or “representing,” some kind of, or even an impression of, reality” –
Rambarran, 2021 (p.39)

This potential explanation positions the term 'virtual' as a fit representation of the illusions of the second, immaterial reality which is constructed in the online space for music streaming users, as platforms such as Spotify offer a seemingly limitless abundance of music material. As a result of this shifting landscape in combination with the evolution of technological virtuality, the connections between platforms grow closer with evolution, blurring online boundaries as a

consequence. In their discussion surrounding the affordances offered by digital evolution of technologies, Magaudda et al., (2019) highlights that this area of intersection between media, materiality, dematerialized content, data, and collective media practises is only continuing to grow in complexity. This may also be due to the blurring boundaries between user and device, as smartphones and their capabilities continue to grow in importance within the everyday life of digital audiences.

Wikström (2012) also predicted that the new focus on user-based interactions and creativity meant that the music industry was now entering an even more competitive field – where competition was no longer restricted to other musical artists on pure-play platforms, making room for all kinds of platforms which facilitate fans’ expression and creativity. As the author predicted, a key change in the evolution of music dissemination, is the daily involvement of social media platforms which are populated by millions of active digital users (Prey, 2020). As explained by Spilker (2018) social media platforms and their interoperability are a key driver in these new practices of digital consumption: platforms utilise hyperlinked connectivity – transforming the act of sharing into a streamlined process for digital audiences. These platforms are embedded into the lives of millions of online users, offering the ability to showcase music tastes from Spotify through the posting of links and short-form video which are further circulated among peers and wider audiences by platform-dependent algorithms. These significant changes in user ability transform the dynamics of both user experience and the wider music industry, through the inclusion of social interaction and audience reach (Prey, 2020; Spilker, 2018).

2.8 Key Similarities and Differences Between Physical Mediums and Digital/Streaming

From this literature, it is evident that music streaming platforms have created a new niche within the music industry, expanding into the creation of a new virtual audience (Rambarran, 2021). However, in reflecting of the actual evolution of music mediums and the uptake in streaming, there are key similarities between physical and digital mediums which have arguably enabled and boosted the acceptance of streaming: through themes of expression and the enabling of music sharing and discovery (Hagen and Lüders, 2017). A key likeness is found in how both physical and digital formats allow users to organise and structure their collections in ways that they feel express their identities (Hagen, 2015; Jacob, 2005; Zhong et al., 2013; Prey, 2020). In mimicking the flexibility of physical ownership, Spotify offers a vast catalogue of

visually marked music and content, allowing users to create and curate digital playlists that can hold any track available on the Spotify platform, permitting users to build collection as diverse and unique as that of a physical collection (Eriksson et al., 2019). Both of these mediums provide processes which portray the consumer as an agent who is choosing to use market-generated products and materials to create a sense of social and physical identity, of their own free will (Bradshaw and Holbrook, 2008).

However, the structural, physical and ownership-based differences between these mediums are immovable. In terms of access, digital platforms allow users to browse through vast quantities of content (that cannot be comprehended in physical manifestation), with Spotify reportedly adding over 60,000 songs a day (Liu et al., 2016). This access is provided for a small monthly fee and excludes the physical exertion and obstacles that are required of attending physical stores, arguably positioning streaming as a more cost effective and accessible way of music engagement (Spilker, 2018). Additionally, the affordances of a browsing and recommendation system like Spotify aids users in feeling more in control of their musical experiences within the platform, than in the experience of searching within a store, which can be influenced by a number of physical variables (Liu et al., 2016). However, by opting for streaming which seemingly removes limitations on physicality and storage, users relinquish their rights to ownership and freedom of use in exchange, only being able to engage with the digital track/album in ways that are allowed by the streaming platform (or digital store) (Eriksson et al., 2019; Vonderau, 2019; Johansson et al., 2017; Spilker, 2018; Katz, 2010). Additionally, if a track is no longer licensed on the platform, it will disappear completely from a user's playlist or be greyed out, no longer enabling playback or access. Whereas once a physical item is bought, it belongs to the user for as long as they wish to keep it, to organise and do with as they please – unlike a Spotify user whose access privileges are influenced on their tiered Spotify account type.

These similarities and differences create questions around user needs and what they find important when listening to music and utilising streaming platforms. Additionally, this brings attention to the concepts of musical ownership versus musical renting, and what the motivations of streaming platforms are in their adoption of these technologies (Eriksson et al., 2019; Vonderau, 2019). It is also notable that while physical sales have dropped and digital sales continue to rise annually (currently holding 67% of global music revenue), tangible music collections still hold significant space in the modern industry due to a portion of committed consumers and collectors (Kemp, 2022; IFPI, 2023). A key reason for this remaining grip of

physical collection may be the actions of nostalgic users who enjoy owning and expressing their music collections in formats which they have previous experience of purchasing. Popularity of physical mediums could also be linked to users who have had little contact with material music, experimenting with physical expression in a world where self-contained, intangible digital formats provide few opportunities or processes for users to outwardly express their musical taste and identity (Prey, 2020; Hagen, 2015; Johansson et al., 2017).

2.9 The Debated Construction and Motivations of Technology

In order to understand the impact of streaming platforms like Spotify, theoretical insight around the use of music streaming technology must be considered. However, due to the complex and multifaceted nature of my chosen research area, there are several actor experiences to consider. Therefore, this section briefly investigates two theoretical approaches which provide grounding considerations around the use and repercussions of modern technologies.

2.9.1 Social Construction of Technology (SCOT)

Developed during the 1980s, SCOT is an approach which denotes two different meanings:

1. A research approach to study technical change in society, both in historical and in contemporary studies.
2. A theory regarding the relations between society and technologies.

SCOT theory suggests that artefacts have many identities (rather than a single, core representation), which are created through the interpretation and interaction with other actors. These identities can be contradictory: for example, a hammer can be used by one person to hang a picture and used by another to inflict harm. In these terms, interpretations are always evolving and shifting—each interaction potentially leading to new constructions (Hargreaves et al, 2002). According to Bijker (2008) the motivations behind the origin of SCOT was to argue against the linear, one-dimensional, and teleological nature of the theory of technological determinism. Bijker (2008) further argues that technological determinism relays an incorrect message: that placing political debate on technology is a futile endeavour. Therefore, it was the role of opposing scholars to show that the operation of technology was socially constructed. He also highlights that the SCOT approach provides answer to Winner's (1980, p.135) famously controversial question "do artifacts have politics?" and offers a way to examine these political contexts.

“Our modern, highly developed society cannot be fully understood without taking into account the role of science and technology. The social construction of technology offers a conceptual framework for discussing the democratization of this technological culture”. – Bijker (2008, pp 4)

2.9.1.1 Three Phases of SCOT

The process of SCOT can be broken down into three distinct phases, allowing for accurate interpretation of an artefact (Bijker, 2008). The three stages of SCOT in practice are as follows:

2.9.1.1.1 Phase 1: Relevant Social Groups and Interpretive Flexibility

The first step includes the description of the artefact through the identified “relevant social group”, who explicitly designate purpose or meaning to that artefact (ibid.). An example of relevant social group identification is looking for actors who refer to the artefact the same way. In reflection of this project (given the mixed nature of Spotify’s actor base), the relevant social groups are encompassing of users who subscribe to Spotify and engage with the platform for professional working purposes or for everyday listening. These different environments and relations to the artefact results in many differing descriptions of the artifact through the eyes of different relevant social groups, therefore producing different artifacts. This is how the researcher demonstrates the “interpretive flexibility” of the artifact itself. There is not one artifact, but many (Bijker, 2008, pp 2).

2.9.1.1.2 Phase 2: Diminishing of Interpretive Flexibility

In stage two of the SCOT process, the researcher assesses how “interpretive flexibility” diminishes due to the dominance gained by artefacts over others, resulting in the merging of meanings, until there is only one artefact remaining from this process of social construction. This process ultimately leads to stabilisation of the process and defines the result of the social construction process. However, this step can take years to complete whilst the degree of stabilisation slowly changes due to socio-technical factors or study limitations (ibid., p.3).

2.9.1.1.3 Phase 3: Stabilisation

Lastly, the processes of stabilisation mentioned in the second step are examined and clarified by interpreting them against a broader theoretical framework, questioning why does the social construction process of an artefact follow this specific path? The central concept of this stage

is the “technological frame” which structures the exchanges among the actors of a relevant social group, shaping their ideas and actions (ibid., p.3).

The methodological approach of SCOT appropriately accompanies my research in in how it affords the consideration of involvement outside of the technology. The suggestion that artefacts have many identities (rather than a single, core representation), based on the nature of the interaction with other actors is a central theme to my project, given its broad nature and range of human and non-human actors. Yet, the flexibility of streaming platforms raises questions around the true sociological nature of such technologies: can the continually evolving platforms of the 21st century ever contain stabilised identities?

2.9.1.2 Music Streaming and Social Constructivism

In regard to addressing this question further, Hagen (2015) advises scholars to refer to previously defined and recognised values which existed before the establishment of music streaming. If a platform like Spotify is considered alongside Tim Berners-Lee’s (1999) vision for the Web, it seems that these digital services can be considered as social machines.

“Real life is and must be full of all kinds of social constraint – the very processes from which society arises. Computers can help if we use them to create abstract social machines on the Web: processes in which the people do the creative work, and the machine does the administration”. – Berners-Lee (1999, p.172).

Following this narrative, the ways in which users can engage and consume music via digital streaming can be considered as a new type of social process as they allow for users to express their creativity and musical tastes through the cultivation and curation of playlists via tools provided by these platforms. From a more granular perspective, Spilker (2018, p.29) makes a highlights how specifically youthful users bring a new dimension of active engagement to music listening through their enjoyment of “self-sharing”, discovery and remixing, even going as far as to group their interactions into the following headings: diversity, flexibility, accessibility, and interweaving. However, it is notable that young groups are often the first and most enthusiastic to engage with new digital technologies, as shown throughout history with various musical artefacts due to both a curiosity and access to streams of information around trending products (Spilker, 2018; Bull, 2005).

However, according to Webster (2020), streaming services specifically make use of these interactions from users to sell the branded musical version of what Jamieson and Capella

(2008) describe as an ‘echo chamber’. This phenomenon is described as “a bounded, enclosed media space that has the potential to both magnify the messages delivered within it and insulate them from rebuttal” (Jamieson and Capella, 2008, p.76). An echo chamber within music streaming allows consumers to ultimately (but not always transparently) witness their musical behaviours and opinions being mirrored by the service they choose to adopt, and all the while they are aiding their chosen service by supplying them with helpful data regarding engagement. In discussion of this promotional culture, it is mentioned by Wernick (1991) that in order for influential transactions to be made, certain levels of information must be exchanged, that consumers must know what is available and when it is available; whereas sellers must know what goods can be marketed and an item’s level of demand. In reflection of my research, it is evident that the relationship between supplier and consumer has shifted due to the advancement in digital technology and data collection, but in ways that are not necessarily in alignment with SCOT.

2.9.2 Technological Determinism

According to Hallström (2022), the philosophical view of technological determinism is the underlying aim to connect the desired outcome with what is technologically available. In contrast to the socially driven viewpoint of SCOT, technological determinism is a reductionist theory which claims that the effects of technology are solely responsible for shaping society’s advancement and design.

“Technological determinism does not, on the face of it, presuppose autonomous technology. It could be that free, creative inventors devise technology, but that this technology determines the rest of society and culture” – Dusek (2006, p. 84).

In reflection of my research aims, this argument of technological determinism can suggestibly be applied to the design of streaming technologies in the proposed way in which their complex blend of proprietary algorithms operates behind the platform’s interface in a computational black box fashion (Eriksson et al., 2018; Vonderau, 2019). The concept of technological determinism could also be applied in the sense that the development of music streaming platforms like Spotify have resulted in the addition of new stages into the overall music industry structure surrounding distribution and remuneration, and that these platforms have begun to introduce highly intelligent personalisation features which respond in real time through the use of artificial intelligence (Spilker, 2018; Johansson et al., 2017; Naomi, 2023). However, this argument opens up further debate surrounding the use of autonomous algorithmic

technologies and their ability to self-govern, which travels outside the scope of my study and into the philosophical realm.

In reflection of these posited arguments and my own research aims, there is notably a lack of evidence positioning music streaming platforms as deterministic in regard to user impact at the individual level. As a result, this introduces questions surrounding the reality of user interactions with music streaming platforms, and if their impact on user listening is really a result of technological shaping, or if it the cause of a much more complex assortment of factors.

2.10 Changes Within the Music Industry: Summary

From the collection of literature that I have presented in this review, there is strong evidence that the interdisciplinary landscape where technology, culture and society intersect is evolving in both complexity and relevance due to the continual development of digital technologies. From this literature, it is also evident that music streaming platforms have created a new niche within the music industry, expanding into the creation of a new virtual audience (Rambarran, 2021). It is also notable that while physical sales have dropped and digital sales continue to rise annually, tangible music collections still hold significant space in the modern industry due to a portion of committed consumers and collectors who value ownership and physical expression (Kemp, 2022; IFPI, 2023).

For consumers, streaming platforms have forged a new section within the industry where consumer effort is minimised, with streaming platforms providing engaging graphic user interfaces and systems designed to hide all obstacles to downloading/file sharing, requiring very little technical skill, or interaction from the user (Eriksson et al., 2019; Vonderau, 2019). Fans of artists and platform users have also seemingly gained more control: being able to engage more directly with musicians, share music directly, and collaborate in creative campaigns or remixing activities.

2.10.1 Changing Environment for Artists and Stakeholders

In addition, this review has highlighted notable developments within the music industry for artists. Digital technologies have lowered the barriers to musical access, widened musical reach, and blurred the boundaries between music industry stakeholders' roles, ultimately contributing to the rise of the DIY, unsigned musician. In the present-day popularity of home-

studios and digital medias powered by the World Wide Web, artists have more freedom in how they record, produce, market, and distribute their music (Skoro, 2021).

Although reports indicate that there are more ways than ever to engage with music listening, research and public discourse show that for artists, these changes to the industry are not without complication or even repetition of historical issues (IFPI, 2023). Regardless of their intangibility, digital products and platforms (still) face granular processes and complexities surrounding royalties, saturation of content, fighting for digital audiences, and metadata irregularities (DCMS; 2021; CMA, 2022; Rambarran, 2021; Eriksson et al., 2019; Johansson et al., 2017). A key example of this is the ongoing low remuneration rates faced by artists whose royalties are dissected by various service fees (depending upon their signed status) and then proportionally calculated to reflect overall usage of the content of right(s) holders (Meyn et al., 2023). The share percentages owned by record labels in leading music streaming platforms like Spotify means that there is an imbalance within revenue shares, with signed artists to larger labels will receiving higher shares of royalty payouts (Sherman, 2024; Ingham, 2019; Ahmed, 2023). This example represents just one of the larger concerns surrounding the use of proprietary data within the modern music industry, where organisations are purposefully using black-boxing methods to maintain both profitability and industry secrecy at the expense of other stakeholders (Eriksson et al., 2019; Spilker, 2018).

2.11 Building on Current Research

However, it is also evident from this review that there is a lack of research activity and clarity around the actual impact of music streaming platforms on those who utilise these platforms frequently to consume music. Although this body of literature does showcase an extensive collection of research surrounding the impact of evolution of digital technologies on the music industry structure, musical impact, and societal procedures surrounding music, there are important gaps in scholarly exploration around the operational treatment of music and how these abundant catalogues are navigated in reality by consumers in this modern age of listening.

This is also reflected within the previous section's examination into music streaming platforms literature – there is a lack of clarity surrounding how users actually feel about these platforms and how they use them within their subjective living situations. The level of reliance given to digital tools by modern society makes it imperative that there is an examination of how massive

streaming platforms like Spotify are affecting stakeholders who use them regularly for consumption, distribution, or even advertisement.

As a result, my research aims to explore how music streaming platforms operationalise music and how streaming users find their experiences and opinions of music to be impacted. The following section shall further clarify the detail and design of my research project in order to approach these research gaps.

Chapter 3 Methodology

3.1 Research Aims

In response to the research gaps outlined in section 2.9, the aim of my research is to empirically explore the Spotify musical experience. Specifically, how music is operationalised on the platform, how Spotify users navigate this manufactured experience, and how the use of this platform has consequently impacted their perceptions and values of music. As previously mentioned, to do this more specifically, my project poses the following questions:

- How is music operationalised and promoted on Spotify?
- How do Spotify users navigate the platform to facilitate their music listening, and how have these uses impacted their views and treatment of music?

This line of questioning originates from the conceptualisation that powers held by platforms like Spotify are further bolstered by the consumers who regularly interact with them. As explored in Chapter 2, Spotify and other music streaming services are of a newer technology which has been developed to seamlessly enhance the everyday lives of millions: relying on input from users to continually inform intangible algorithms which in turn, power the recommendations and personalisation functions. Therefore, it is extremely important to these services to maintain user attention, by remaining varied in its catalogue of music and appealing in its front-end interface. As a result, these platforms are structured around the human user which rely on and retain the benefit of subjectivity, utilising flexible interfaces and personalisation as a way to catch the attention of those who use it (Hagen (2016); Webster (2021)).

Music is a subjective creation, influenced by a variety of factors, such as culture, age, race, gender, and experiences, with the true combined volume of physical and digital music in existence remaining unquantifiable. However, the impact on users who choose to actively access and interact with their preferred music through the intermediary of platforms like Spotify also remains unknown and must be studied from both the sociological, musicological, and computational perspective.

In the first section of this chapter (3.2), I outline my intentions and motivations to incorporate the perspectives of both SCOT theory and technological determinism throughout the varying chapters of this study, using these contending contextual social theories to analytically frame my findings. I also intentionally include brief descriptions of other theoretical approaches and

explain why these were concluded to be inappropriate for this study. The purpose behind this motivation is to acknowledge to the complexities of streaming platforms (as outlined and alluded to in Chapter 2 (sections 2.5 – 2.7) and their abilities to blur the boundaries of human and technological domains. While these platforms are formed in origin by both human ideas and creation of concepts, they are both influential and influenced further through technological interventions. By design, platforms are intermediary figures, created for the purpose of containing and interaction. They are shaped by a variety of factors such as industry, technologies, and audience, and their existence provides value primarily through the methods in which they enable a user to interactions with a desired product (Webster, 2021). Therefore, this thesis is concerned with how these music streaming platforms, as blended constructions which feature human and non-human interactions, shape a user's listening routines and music-based beliefs.

In the latter portion of this chapter (sections 3.3 – 3.5), I clarify this research's design and each of the methods used in my mixed approach to form my evidence base, including the collection of playlist data through an Application Programming Interface (API), a brief walk-through of the Spotify interface, and semi-structured interviews with a recruited assortment of twenty-three participants who utilised Spotify for work and/or leisure purposes. I introduce Spotify as the platform of choices for this research and the motivations behind this. I also provide further explanation on the processes used to carry out data retrieval using the Spotify API, which required the creation and running of code that would allow me to access three different kinds of publicly available data and information from the back end of Spotify. I explain how these three sources were analysed using a thematic approach. The intention of this retrieval was to pursue understanding of how music is broken down and codified through the platform in order to aid algorithmic sorting and recommendation functionality. I also describe the participant recruitment process and the designing of the semi-structured interview format. Within this section is a description of the decisions taken to maintain ethical research practices.

Following these descriptions, this chapter offers a brief methodological timeline to highlight the process behind this work. This chapter concludes by critically reflecting on this chosen mixed-method approach.

3.2 Constructionism or Determinism?

As discussed in Chapter 2 (2.5 and 2.6), in the act of streaming, a user enters into an agreement with the platform, creating a seemingly bespoke arrangement based on technological and

human-based reasoning. Therefore, to only refer to a single theoretical concept in this wide-ranging study would be ignorant of the complex relationships and dependencies that exist within this research space. In order to unravel these sociotechnical relationships and understand the true motivations and underlying concepts at stake, I choose to combine the use of the (previously described) contrasting theories of SCOT and technological determinism throughout later chapters, in order to understand the presented findings from each theoretical perspective. Combining the use of these concepts creates the opportunity to provide theoretical balance, allowing for a better understanding of impact and power across both the featured technologies and actors within this study.

The previous literature in Chapter 2 collectively alludes to music streaming platforms being user-centric technologies which have gained levels of notoriety for their unbalanced economic nature, where users are reaping the majority of benefits (DCMS, 2021). However, the actual entity of music which is uploaded to the streaming platform is separate from the streaming platform. It is instead hosted and contained on the platform for users to access through Spotify's interface, which acts as a digital intermediary shell. What keeps also keeps users and music separate is the idea that music – as an artefact – is created through personal creative processes which are subjectively influenced through a variety of factors and experiences. Therefore, to examine Spotify's user interactions through the previously discussed lens of SCOT theory (see section 2.8) would provide a more granular idea of what types of identities, use motivations and beliefs are held by users in relation to music, and also how they understand and control the placement of Spotify and such platforms in their daily lives.

However, many of Spotify's features place responsibility on continual algorithmic input and functionality, which operates at a global scale (Eriksson et al., 2019). These responsibilities afford power to algorithms involved in recommendation technology and grouping of music by differing themes, which are then promoted to individual users on a regular basis. Aside from prominent questions of data collection and mass surveillance, this means that potentially millions of individuals are being influenced on a regular basis by recommendation technology, which relies on continual user input (Zuboff, 2019). Therefore, it is logical to suspect that there may be influence at the algorithmic level which goes further, consequently impacting stakeholders. A suggestively effective way for this to be understood is through the theoretical lens of technological determinism.

This wealth of literature and my research aims show that the study covers a wide-ranging landscape of actors and digital artefacts which are asymmetrically connected in the practice of

streaming music through Spotify. Therefore, the utilisation of two opposing theories such as SCOT and technological determinism allow my project to effectively frame this wide-ranging study. To have both theories present in the same research project offers a balancing of perspectives and critically avoids academic immoderation. Furthermore, by aiming for analytical balance within this widespread study, I create the opportunity to explore the impact of a range of technological and social influences at play.

I hypothesise that music streaming platforms function to balance its identities of both gatekeeper and accessible utility, while utilising the presentation of playlists to influence the user-to-algorithm connections in tandem. I also predict that the findings show that user navigation of Spotify will vary in relation to the user's streaming environments. I also posit that the platform takes an approach of flooding users with the illusion of musical choice in order to provide the user with a self-assured flexibility around platform purpose and identities.

3.2.1 Framing 'The Smooth' Effects of Spotify

As previously mentioned in section 2.6.2, the sleek, streamlined, and multi-device service that is Spotify fits comfortably within Ted Gioia's musical contextualisation of philosopher Byung-Chul Han's 'the smooth' theory. Originally drawn from Han's critique of how society links artefacts through universally smoothed out appearances, where the unique qualities of an entity and its experience are moulded through differing processes into popular archetypes that blend in with the other popular artefacts of that time period (Gioia, 2019, p.455).

When discussing the impact of the digital revolution, Gioia (2019, p.457) explains that the digital revolution has dragged music from its position as an art and has caused it to be devolved into the reductionist concept of "content", where the human's interaction is little more than an obstacle to stakeholders who wish to utilise algorithms for all musical functions and distribution. These stakeholders are identified by Gioia as high-powered executives within both the music industry and those who work within data-driven organisations (such as Facebook and Google) who would target the valuable fanbase that music continues to hold. This idea also encompasses music streaming platforms like Spotify.

"They want to control music and use its power to advance their own interests. But they also fear it, knowing that disruptive or revolutionary movements can turn the songs against them. So take your pick: music as soothing lifestyle accessory, or music as subversive force of change." – Ted Gioia (2019, p.461)

From this, Gioia's interpretation of 'the smooth' can successfully be applied to streaming platforms like Spotify in regard to their treatment and presentation of music tracks, moulding them into algorithmically friendly material for their recommender systems, in order to be utilised on a global scale. However, while Gioia (2019) offers high-level reflections and commentary on the evolution of music streaming and modernistic changes to music, this theory has not yet been applied to Spotify at the level of qualitative and quantitative depth that my study provides. To frame my findings and results (from analysing public Spotify data) against Gioia's previous contextualisation of 'the smooth' will provide an additional perspective in understanding the importance of granular processes within the operationalisation of music on Spotify, and how tracks are transformed into entities which are suitable for mass consumption.

3.2.2 Reflections on Rejected Theoretical Frameworks

There were a number of attractive theoretical choices for this project, many of which have featured in previous music streaming research, including the more sociological approaches of Actor Network Theory and Grounded Theory. However, while my project does provide partial focus on users' streaming activities and their relationships with music through streaming, the research questions and the interdisciplinary nature of my research also places significant importance on the treatment and representation of the music itself: dissecting how music's placement in streaming both impacts and is itself impacted through use. The following section reflects on three theories which were initially considered for use within this research.

3.2.2.1 Actor Network Theory (ANT)

The social-scientific line of inquiry known as ANT was first conceived by Latour, Callon, Akrich and Law in the early 1980s as a response to developments within the fields of social science (Munesia et al., 2015). In regard to the operational use of the method, musicologist Georgina Born (2010) summarises ANT as a combination of two elements: the semiotic treatment of action and a focus on material devices.

Music genre – being an “unstable collection of related entities” – benefits from an ANT-based approach according to Piekut (2014, p.192). This is due to the collective nature of ANT, accompanied by its focus on the equal effect of each individual object. Scholars such Devine et al. (2021) have embodied this attitude and even exhibit going further in research works, where the author fully traced the lifecycle of specific musical objects and phenomenon. This viewpoint is also proven effective in Drott's (2013) musicological use of ANT whilst examining

music genre (a work created in response to consistent scholarly comments of genre's decline). Drott (ibid.) further concluded that an ANT approach to music genre provided a basis for consideration regarding how the cultural field and its features are embedded within an individual, shaping our viewpoints and perceptions of music. However, my reasoning for rebuffing the use of ANT lies in the intricacies required of the theory itself (Latour, 2005). While this project does feature a breakdown of the functions on Spotify and utilises code to explore API-retrieved data, it did not seem appropriate to study these factors using this theory, as ANT requires (what can be) subjective interpretation around actor significance. In an unstable landscape such as Spotify, where user engagement drives functionality, understanding the significance of actors would be difficult to prove conclusive. A further issue arises around the risk of falling into the trap of becoming too descriptive of the landscape and its relationships, rather than providing analytical depth (Mol, 2010).

3.2.2.2 Grounded Theory

Grounded theory is described as the practice of “generating theory through data” (Glaser and Strauss, 1967, p.1). In the absence of a well-formulated theory that fits their research aims, social researchers can develop a theoretical account to enable dialogue of the general features of the subject of study and is firmly grounded in the data or empirical observations. While this theory proves to be appropriate within narrower social studies of focus, this theory was deemed inapplicable due to the risk of over-generalising certain aspects of the research when trying to develop robust theory from my wide-ranging project's divergent data sources (Thomas and James, 2006). As a result, this thesis would not accurately accomplish the intentions of the research aims set out in section 3.1.

Based on the previous academic research into music streaming platforms which use qualitative or quantitative research, there is evidence of groundwork and use of social theories in effective critique of musical topics, many of which have not yet been fully applied to music streaming platforms (Hagen; 2015; Webster, 2020; Drott, 2013; Pichl et al., 2016; Spilker, 2018; Siles et al., 2019; Prey, 2018; Prey, 2020). Furthermore, based on the discussion of SCOT and technological determinism provided in section 2.8, utilising these theories in combination offers a theoretical approach which could provide both the intricate and the extensive considerations needed to better understand the use and repercussions of streaming in both the music industry and in user experiences.

3.2.2.3 Critical Infrastructure

During the process of my research, the focus within the research landscape gradually started to shift away from the mysterious, black-boxed complexity of recommender systems, and towards the research area of critical infrastructure, which gathered pace within the arts and humanities fields. This branch of study seeks to dig below the surface of organisations and objects which accommodate our everyday lives and understand how their infrastructural and dimensional make-up facilitate the experiences that users. While this area of study holds some similarities to the practical dimensions of Latour's (2007) Actor Network Theory, which affords researchers the ability to understand the perspective of all actors within specific contexts of constructs, scholars such Devine et al., (2021) have exhibited going further, fully tracing the lifecycle of specific musical objects and phenomenon. This area of study was omitted from my research, due the fast-paced and brief window of time in which my thesis research has been carried out. However, in reflection of this interesting scholastic space, I believe it would be extremely fruitful to explore further the audible infrastructures of Spotify and the lifecycles of all objects and phenomenon required to facilitate the identified power of convenience which cements music streaming in its popularity to this current day.

3.3 Research Design

In order to conduct an interdisciplinary study, I adopt several methods, opting specifically for a mixed method approach. The following sections discuss the specific empirical methods used to form this research project, including the use of Spotify as a critical case, the utilisation of an API and the valuable addition of qualitative semi-structured interviews.

3.3.1 Introducing Spotify as Critical Case

Behind the interface of Spotify, several established aesthetic and technological procedures are in effect to ensure that the user experience is facilitated by an efficient and streamlined platform. In order to achieve my aims of exploring how different music is presented and promoted to users, and how users have been impacted, it is important to consider the experience provided by the front-end interface which facilitates the Spotify musical experience. Therefore, to effectively showcase the interface layout that is navigated by a Spotify user (of a Premium account), I introduce the Spotify environment through the use of a detailed interface walkthrough, breaking down popular pages, playlists, and features on the platform. This also

aids in building clearer caricatures around factors which facilitate the platform's continuing success and ongoing popularity that are discussed in my interviews.

3.3.2 Method 1: Thematic Playlist Analysis Using Spotify's API

In order to understand Spotify's methods of promotion and music representation, I obtain an empirical impression of the computational treatment that music receives through Spotify's coded structures and also in its playlist themes. This research method provides insight as to how music is categorised by Spotify and marketed in playlists, and also offers valuable analytical connections and support to the other research methods used to explore how these promotional playlists impact the choices and behaviours of those who browse through the platform's extensive catalogue.

3.3.2.1 API Definition

An API is an interface designed to act as intermediary between two separate software applications. It is common for large online platforms to create official APIs for developers, allowing them to access data, create data visualisations, support analysis, and develop products using features of the organisation's code. Therefore, this method of research is popular with those who study the social aspects of digital interaction and habitation (Perriam et al, 2020).

3.3.2.2 API Execution

To successfully execute this specific research aim, this project utilised the Spotify API (with the aid of the Python programming language) to retrieve a number of data types. Spotify applies various identifiers to every artist, album and track in order filter through the volume of information on the platform. This includes (but is not limited to):

- 'Spotify URI': a unique resource identifier which is applied to every artist, album or track on the Spotify platform (e.g., "spotify:track:6rqhFgbbKwnb9MLmUQDhG6").
- 'Spotify ID': the base-62 identifier placed at the end of the 'Spotify URI' (e.g., "6rqhFgbbKwnb9MLmUQDhG6" in the above 'Spotify URI').

3.3.2.2.1 Extracting Spotify's Genre-Seeds

Additionally, Spotify has utilised the programming function of 'seeding' to filter and organise their genres – with the API parameter being labelled 'genre-seed' (Spotify (c), 2023). In

programming, seeds are used to create a starting value that is used to generate a sequence of randomised numbers, which can be fixed in place. This function can be used for various purposes in coding: including algorithms training (through randomised seeding) or splitting data into separate training or sets (by fixing/endorsing seeds), ensuring reproducibility in other research projects utilising programming and data science (Bansal, 2020). By assigning each genre a fixed integer, Spotify's list of music genres can be applied to artists, reproduced consistently and filtered consistently for recommendations (Spotify (c), 2023). Therefore, by retrieving the 'genre-seed' list, I aim to understand how Spotify's computationally captures music genres and investigate what classes of genre feature within this list (Spotify (c), 2023).¹³

The list is retrieved through the API as a collection of text names (e.g., "samba" or "alternative") (also referred to in coding as an array of strings) and an accompanying number. Following its retrieval, I examine the list in reflection of Jacob's (2004) systems of categorisation and classification, in order to survey how genre is perceived in the hidden back end of Spotify. In addition to this process of genre-seed analysis, I use the API to execute searches for different artists to find out how many tags are assigned to artists and how robust the sample seeds on retrieved the list are.

3.3.2.2.2 Spotify Public Playlist Extraction

Furthermore, I use the API to retrieve a data set consisting of approximately 1400 Spotify-created playlists which are publicly available. The reason for this specific number lies in the default sample limit which is placed on playlist retrieval through the API. These playlists are subjected to sifting and are sorted into approximately 20 thematic categories in order to explore what themes of playlists are most prominent and what this means for how Spotify market playlists to users. The API also returns the Spotify-created metrics used to break down and analyse tracks, to showcase the way in which music is computationally treated.

The surface-level extent of this examination is grounded in the consideration of the issues associated with delving any deeper into the service. In order to avoid any legal, privacy or policy-based issues, this study shall only examine the publicly available, Spotify-generated playlists, and Spotify-provided data surrounding genre labelling and genre options. To examine deeper into personal user activity via the API, I would require each targeted individual user to consent to providing a specific confirmation key to access the information, which does not

¹³ Seed values are also used to aid Spotify algorithms in categorising tracks and artists.

prove efficient to this project's timeline or adhere to the data minimisation principal featured in the UK GDPR (ICO, 2023).

Results from this analysis informed the design of my interview questions, where I qualitatively investigate how users utilise and navigate the platform to facilitate their music listening experience. The thematic API analysis also offers support in building analytical understanding, helping to provide insight on how the abundant presence of music playlists; coupled with the qualitative results around user facilitations of the platform have changed the state of music.

3.3.3 Method 2: Semi-Structured Interviews

As mentioned, platforms like Spotify have been built for user-centric purposes and like many platforms, are driven by user interaction to promote personalised engagement. Therefore, to understand the socio-technical impact of these platforms and their ability to integrate into a user's daily life, the second empirical strand of analysis in my research is of a qualitative nature. To gain user-derived answers to my research aims, I conduct semi-structured interviews with over twenty participants who actively use Spotify in their daily lives and routines.

The benefits of data collection using qualitative interviews are found in gaining insight into the experiences, and viewpoints of a diverse pool of users. The interview approach used within this data collection was specifically of a semi-structured nature, due to the format's open natured approach, with an element of guidance included to stop the interviews from becoming too off-tangent from the original theme of the question(s) (Fox, 2006).¹⁴ While the questions aid in outlining the topic under investigation, there is flexibility provided in the participant's opportunities to discuss some topics in further detail. This was appropriate for understanding both the unique experiences and beliefs of Spotify users. This flexibility also meant that if the interviewee was facing trouble in responding to a question, I was able to use appropriate cues to inspire the interviewee to contemplate the question in further depth. In turn, a semi-structured format also allowed me to explore interviewees' original responses further through guided probing. Due to the safety and social distancing guidelines put in place through the coronavirus pandemic, all interviews were held online through the following digital platforms:

- Microsoft Teams.

¹⁴ One consequence of using a semi-structured interview approach resulted in interviews being varied in length, depending upon user enthusiasm and personality.

- Skype.

Reflections of online interviews were published by Deakin et al. (2014) which highlighted advantages including savings in expenses and time, further geographical reach for research participants, more (audio/visual) flexibility, better accessibility in interviewee participation, and easier assurance of anonymity for participants.

3.3.3.1 Semi-Structured Interviews: Challenges

Research concluded that online interviews were an appropriate tool in both supplementing and replacing face-to-face interviews, encouraging researchers to challenge traditional modes of thinking surrounding qualitative research (Deakin et al., 2014). Although online interviews are shown to provide benefits in cost, time-efficiency and extended participant reach, interviewers may experience a number of barriers which must be addressed when attempting to complete successful interviews and collect good qualitative data. Commonly reported obstacles include difficulty in building social rapport, ensuring interview attendance (with raised levels of absenteeism amongst interviewees), and technical issues (Deakin et al., 2014).

In the event that technical issues or scheduling/absenteeism issues occurred within my interviews, I could deploy attempts to fix connections: such as reconnecting my devices, referring to guidance online, or even rescheduling the interview. However, it is notable that some issues (even when pro-actively addressed) would be outside of my control or influence, threatening the richness of data collected. One example was the potential difficulty in addressing physical awkwardness in online interviewing. The intimacy of in-person interviews cannot be replicated through online interviews due to eye contact being distorted by cameras and delays in video and audio connections. Moreover, poor internet connections and strong participant accents make audio capture more difficult, creating the opportunity for inaccurate transcription (Carter et al., 2021). As a result of these considerations, I made consistent efforts to speak calmly and clearly in my interviews for the benefit of my participants and my recording mechanism(s). Additionally, I kept the tone of my interviews relaxed yet polite to ensure that interviewees felt comfortable but also free to express ideas in their discussions.

An important challenge in my online interviews was pro-actively tackling the potential wariness which could arise in interviewees when asked about their personal experiences, in order to avert unfavourable situations where interviewees felt the need to be selective with the truth. Due to the personalised and private manner of music engagement that is encouraged by streaming practices, many see their Spotify accounts as privately contained, projected

reflections of themselves (Spilker, 2018). Therefore, I was consistent in my attempts to diffuse awkwardness when asking participants about their music listening habits and interactions. I made it clear that I respected their personal practices and reminded participants that their identities were completely anonymised within my study, in order to reinforce that this was a safe space to share personal information (Bull, 2022; Carter et al., 2021; Fox, 2006). However, there is the possibility that regardless of my efforts to reassure participants through these positive practices, users may have still felt personal pressure to provide ‘correct’ or embellished answers that they deemed more suitable, instead of their true personal experiences and opinions. This relates to issues around the stereotypes faced by participants within interview environments. In the case of my study, interviewees may have felt pressure to provide false details in order to stop themselves from sharing information that felt too personal with an interviewer (and stranger) who does not necessarily share the same experiences or views (Johansson et al., 2017; Carter et al., 2021; Bull, 2022). This consideration placed additional importance on my study’s alignment with ethical practices: focusing on the transparency of participant recruitment, the intentional open design of the interview questions, and the professional, courteous conduct of interviews (Fox, 2006; Carter et al., 2021).

As there was no way for me to discern if a user was telling the complete truth or embellishing, I chose to take my interviewees’ answers in good faith, accepting that some details may be embellished regardless of my pro-active social and ethical practices.

3.4 Interview Questions Design Process

Based on the findings of my API research strand and awareness of the challenges in online interviewing, I designed the interview questions for this thesis so that they would complement the main research questions of this project (see section 3.1), and gain as much qualitative insight as possible into each individual user’s Spotify consumption habits, methods of platform navigation and views on potential personal impact.

By examining the pre-established literature and writings on music streaming (as reviewed in Chapter 2), the foundational questions were structured to allow for further enquiry into an interviewee’s personal beliefs around streaming technology and music, their daily streaming use and environments, and their opinions around different aspects of the Spotify platform. These identified users were also asked to reflect about each of these aspects and how they may or may not have consequently been impacted by the presence and options provided by Spotify.

Core themes which were foundational to every interview included asking users about the following:

- Their motives for their Spotify subscription or free account.
- The normal environments in which they'd be streaming.
- Their choices around navigating the platform for music searching and categorisation.
- What they know about the platform's personalisation features and functionality and how they feel about using these features.

To view the full list of foundational questions used, please refer to Appendix A.

3.4.1 Considerations Around Determination of Impact

These interviews were designed with the intention of studying how users navigate the platform to facilitate their music listening, and how these uses have impacted their views and treatment of music. The majority of questions (in Appendix A) addressed a participant's personal experiences and required no specialistic knowledge or prior understanding, encouraging them to answer with ease and confidence. However, it was of great value to my study to explore how understood the functions and features of these platforms are by my users (who form part of the wider lay audience of music streamers). Therefore, I included probing questions which were slightly more challenging to my interviewees from a technical angle, including:

- "What are your views on the algorithms that these platforms use?"
- "How would you improve these music streaming platforms?"

While these questions were influential to the wider scope of this study, there was a risk that interviewees would find these intimidating and potentially feel unable to answer to the best of their ability. Additionally, users may not be able to understand the purpose behind these questions and therefore may not feel confident in providing full answers. Furthermore, any question-based intimidation combined with being interviewed by an active PhD researcher may contribute to a perceived asymmetrical power imbalance between the interviewee and myself, creating fears of personal judgement and perceived inaccuracy. Even though (in the case of these interviews), the interviewee holds the control in terms of information, my subject knowledge and line of questioning could unintentionally cause an interviewee to believe that my thoughts and opinions are the correct ones within the dynamic, resulting in answer alterations (Bull, 2022; Obelené, 2009).

An additional challenge lay in how I was going to appropriately capture the impact that music streaming has had on the users. Given the vast number of micro-actions which are used within music streaming interaction and the black-boxed approach from Spotify, truly understanding the true depth of user impact would not be possible from this small number of interviews and would require vast resources (which are not available to this study) (Johansson et al., 2017). Furthermore, impact is not a linear or consistent experience across users and what I may interpret as impact may not be resonate with a participant's experience within the context of the interview.

These potential issues, if ignored could impact the quality of the data being collected. Therefore, it was imperative to maintain clear and concise language, with opportunities on both sides to provide and obtain as much additional detail as requested. I solidified these intentions intention in each interview by taking five to ten minutes to make conversation with participants before I started formally recording. In these moments, I would briefly introduce myself and make casual conversation in order to create a more relaxed atmosphere. I also took the opportunity to check in with my interviewees: making sure they were comfortable and as relaxed as possible; ensuring they were happy to continue with the interview; informing them about what to expect during the process; and clarifying that I welcomed all answers, opinions and discussions. I kept my language as user-friendly as possible and went into further depth whenever I was requested to by a participant. I also did not hesitate to ask interviewees to elaborate in detail on topics where I needed clarification or related ideas that I found thought-provoking. By considering these methodological challenges and consequently taking steps to pro-actively alleviate them, I ensured that I was actively working to collect the best quality of data available.

3.5 Participant Recruitment Process

With regard to interview participation, I aimed to interview a range of users in order to reflect the diversity of those who access Spotify. In order to expand the potential reach of study participants while navigating physical distancing as a consequence of the Covid-19 pandemic and the United Kingdom's subsequent lockdowns, my research recruitment and communication was conducted online. I utilised a mixture of online social and professional platforms to circulate my call-for participants, including the posting of an informative recruitment bulletin (see Appendix B). This bulletin detailed the study and outlined the parameters for involvement. The mandatory parameters detailed that:

- Participant must be over 18 years of age.
- Participants must use Spotify (both Premium or free accounts) for leisure and/or work purposes.
- Participants must have access to an online platform such as Microsoft Teams or Skype.

When choosing how to best circulate the bulletin for recruitment, I considered the ethics policies held by my university, the influence of previous qualitative studies, and the obstacles presented from physical distancing related to Covid-19. As a result, I chose to circulate the bulletin on large social and professional platforms including Instagram, LinkedIn, X (formerly Twitter), and Facebook. Social media platforms are frequently visited sources of communication with a large user-base. From 2019 to 2022, it was estimated that 145 minutes a day was spent by users (between the ages of 16-64) interacting with social media platforms (Dixon, 2024). Therefore, I concluded that this was the best direction for recruiting a diverse array of participants, given the parameters within which I was to conduct this study.

The bulletin was shared initially through my professional and personal accounts and the university's research resources provided general advertisement. The bulletin was then picked up and shared by both personal and professional connections, which led to further general advertisement by other professional larger accounts. At no point were any of the interviewees approached directly by me in order to avoid situations of intentional bias. Instead, individuals who met the study's requirements and wished to take part had to contact the email provided on the bulletin for further details. Those who read the bulletin but did not want to take part, or were not eligible, were encouraged to share the bulletin on their social or professional feeds in order to spread the study's reach. From my recruitment phase, thirty individuals initially signed up to be interviewed. However, I experienced dropouts from this process, either through notification of withdrawal from those or a lack of response from potential participants when contacted by myself to check-in. Many of these potential participants often offered no explanation as to why they had changed their mind and given the obstacle of online communications. As a result of using this method, a total of twenty-three participants were successfully recruited.

In reflection, other methods utilising in-person recruitment would have potentially provided access to a larger proportion of participants from older age ranges. However, these methods were not appropriate due to health and safety measures and university policies in effect at the time of this study's recruitment phase. Nonetheless, given the qualitative nature of this study, I can conclude that the experiences and data collected from those who did take part do still robustly contribute towards this study's aims and its focus on subjective user-led experiences

of music streaming. This study additionally lays groundwork for future studies which can introduce a larger portion of older users into their research.

3.6 Participant Breakdown by Demographic

As of 2024, Spotify reportedly reached 435 million monthly active users across the globe. It is also estimated that the average Spotify user spends around 2.5 hours a day listening to music – showcasing the drawing power of this platform (Götting, 2023; Eser, 2024).

Although I placed limitations around the scoping of this study, the interviewee pool included a mixture of diverse occupations, inferred age brackets, account memberships, and musician statuses (as shown in Table 4), reinforcing the sign of Spotify’s flexible appeal as a platform. With regard to the perspective of qualitative research, it was important to observe the assortment of interviewee demographics, as it was previously hypothesised that these factors would play an important role in users’ approaches to Spotify consumption. Therefore, following their recruitment, and with their consent, the data of each participant was securely anonymised (for their protection) and broken down into the four following categories for research representation purposes:

- The participant’s inferred age bracket (by decade)
- The participant’s occupation
- The participant’s status as an active musician or non-musician (to provide context on questions surrounding music streaming’s impact)
- The participant’s subscription of choice (Premium or Free)

Table 4 below showcases the breakdown of all twenty-three participants who, throughout this study, are referred to by their user number (e.g., User #1, User #2, User #3...).

Table 4: A breakdown of interview participants by age bracket, occupation, musical status, and subscription type

User Number	Inferred Age Range	Occupation	Active Musician (Y/N)	Spotify Subscription Usage
1	20-30	Military	N	Premium
2	20-30	Programmer	Y	Free
3	20-30	IT Consultant	Y	Premium
4	30-40	Personal Trainer	Y	Premium
5	20-30	Aircraft Mechanic	N	Premium
6	30-40	Fitness Influencer	N	Premium
7	20-30	Teaching Assistant	N	Premium
8	20-30	PhD Student	Y	Premium
9	30-40	Lecturer	Y	Premium
10	30-40	PhD Student	N	Free
11	50-60	Retired	N	Premium
12	30-40	Sales Consultant	N	Premium
13	40-50	Researcher	Y	Premium
14	40-50	A&R Manager	Y	Premium
15	30-40	Researcher	N	Premium
16	30-40	Composer	Y	Premium
17	40-50	Military	N	Premium
18	30-40	Lecturer	N	Premium
19	40-50	Researcher	N	Premium

20	30-40	A&R Manager	Y	Both* ¹⁵
21	20-30	Teaching Assistant	Y	Free
22	30-40	Researcher	N	Free
23	30-40	Software Engineer	N	Free

3.6.1 Inferred Participant Age Range

Of the twenty-three participants who were successfully recruited and interviewed, the inferred ages ranged from twenties to fifties, with the range bracket being placed a decade in order to avoid the possibility of participant re-identification. As can be seen from Figure 12 below, the majority of participants were between the ages of thirty and forty, followed by the twenty to thirty brackets. This majority could potentially be explained by the intervention of engagement algorithms embedded into the social and professional sites which I used to share the information during my recruitment campaign. However, users were not required to specify the platform on which they found and engaged with the recruitment bulletin.

According to reports, 60% of Spotify's entire user base are under 29, but surveys show that Spotify users aged 55 and over are the fastest-growing demographic on the platform (Eser, 2024). Therefore, the range of inferred ages within my study reflects the study's efforts to address previous research bias concerns highlighted by Johansson et al. (2017), where music streaming research typically reflects the views of younger teenage individuals and students using the service.

Although individuals from the age of thirteen and over are allowed to access and use Spotify (with the permission of an adult), no participants below the age of eighteen were invited to partake in my study due to ethical and legal concerns. The absence of this age group in my research and many other studies signals a prospective topic for further research. Projections by Eser (2024), predict that future research of streaming users may provide further diversification regarding representations of age groups

¹⁵ *This user has identified using the Premium version for personal use and the free version for their line of work.

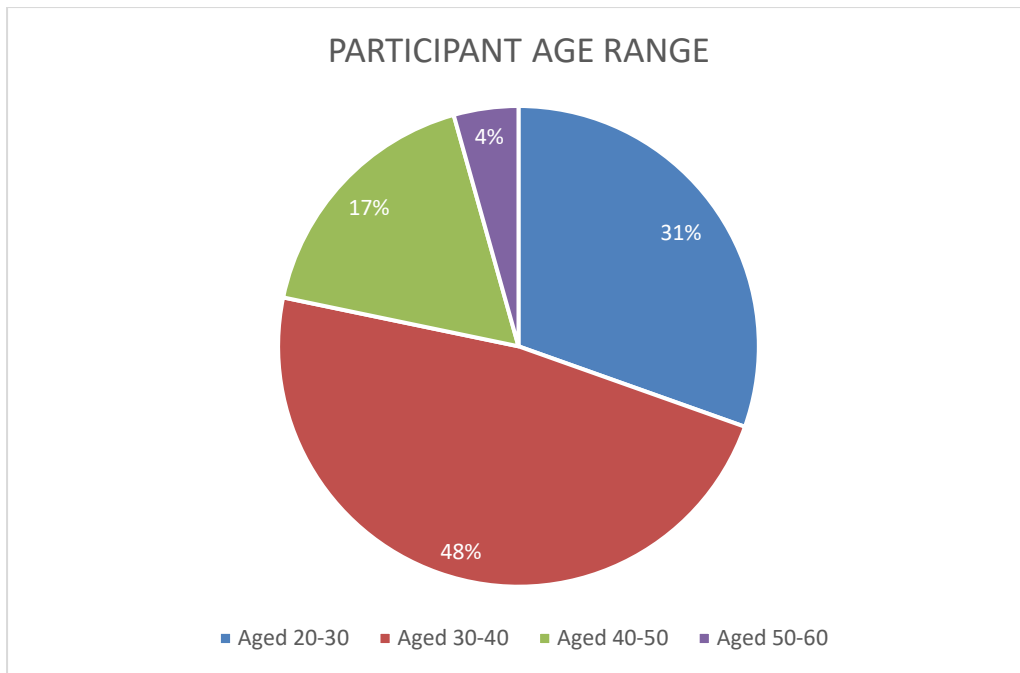


Figure 12: A chart showing the breakdown of participants by approximate age brackets as detailed in Table 4.

3.6.2 Participant Occupation

Participants were asked about their professions in order to get an impression of Spotify's audience diversity and how the platform could be used to fit around their specific working and non-working spaces. From Table 4 above, it can be seen that the participants' professions are varied and can be aptly summarised into the following ten categories:

- Health and Wellness
- Military Service
- Creative Industries
- Sales
- IT and Software Engineering
- Physical Engineering
- Education Worker
- Employed Researcher
- PhD Student
- Unemployed



Figure 13: A chart showcasing the distribution of participants occupations.

As summarised in Figure 13, the two largest occupation groups belong to the Employed Researcher and Education Worker categories. This may be caused by a number of factors, including algorithmic intervention from social and professional websites I used when sharing the information bulletin. This may also be due to external marketing techniques being used by Spotify who offers discounts to specific demographics, including students, and others in academia with a qualifying academic email address. However, my study (again) offers a unique contribution by providing a more diverse mix of occupational viewpoints in reflection of the previous research bias highlighted by Johansson et al. (2017).

3.6.3 Participants' Musical Status

During the interviews, participants were given the opportunity to share if they did or did not identify as active musicians, as this was a demographic who I wished to question further in relation to their experiences. In identifying as 'active' musicians, it was implied that these individuals took part in any of the following activities: live performance, composition, song writing, recording music, or distribution of music.

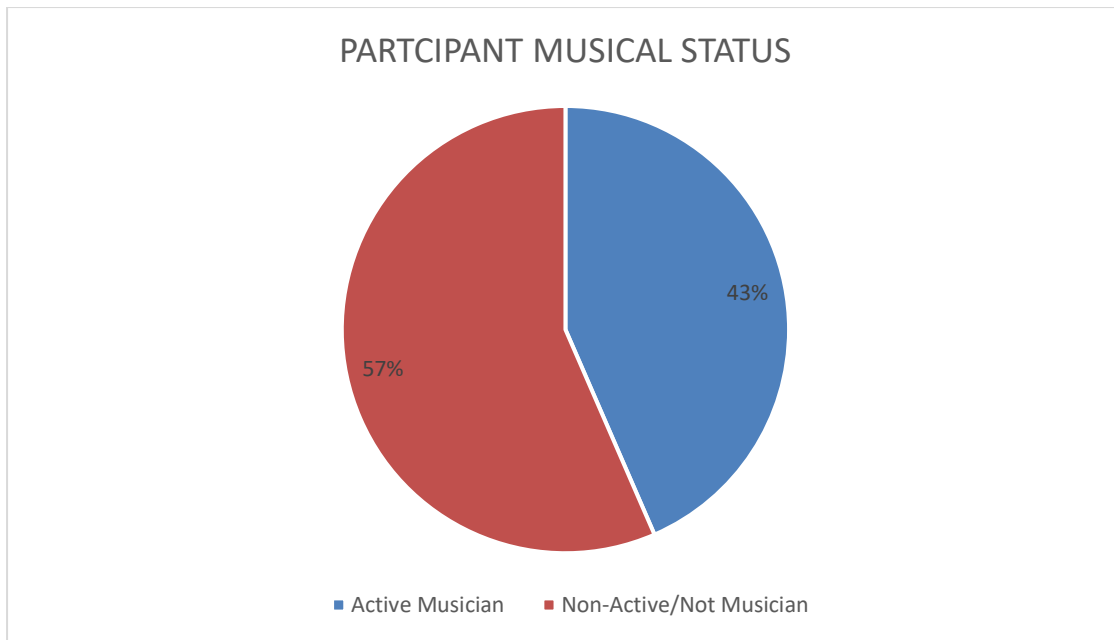


Figure 14: A chart displaying the proportion of active musicians among interview participants.

As shown in Figure 14, 43% of the recruited interviewees identified themselves as active musicians who were small, independent artists. However, not all of these musicians utilised Spotify to distribute their music, which is discussed further alongside other artist reflections in later sections of this thesis.

By interviewing a diverse pool of individuals, I aimed to build an understanding of how different users valued different features and aspects of Spotify. As mentioned, this push for more diversification amongst the interviewee pool was inspired by reflections from Johansson et al. (2017) who stated that much of the previous streaming service research has been aimed at youth and subcultures, excluding a large portion of the user base of platforms. The interviewees and their quotations are anonymised throughout the thesis, even when quoted in the study.

3.6.4 Ethical Considerations

Before proceeding with this research, great ethical consideration was given to research methods, and I designed this project around the concepts of ethical research and informed consent. As a result, all participants had to follow the same process: no participants were directly approached, all had to respond to the email provided on the bulletin, read a participation information sheet about the study (see Appendix C), and sign a consent form which declared their participation was of their own choice (see Appendix D). Interviewees were made aware that their answers and personal data would be fully anonymised, and that they

also retained the ability to withdraw from the study at any time up until the point of thesis submission. To protect interviewees, all interview audio recordings were deleted once transcribed and pseudonymised, and transcriptions were deleted once the pseudonymised data was inserted into NVivo.

3.7 Interview Coding and Findings Synthesis

Following a successfully completed interview, the recorded interview audio was manually transcribed and then imported into NVivo, a tool used to parse, segment and code qualitative data for analysis.¹⁶ The transcriptions were then analysed and broken down through coding (grouping) across a number of themes which reflected the broad sample questions, the aims of my research questions and the varied discussions which took place. Each interview transcript was analysed separately and then the of transcriptions were analysed collectively (using different combinations of comparisons (framed by my interview questions and user attitudes which arose when discussing topics) in order to identify additional themes, attitudes, and patterns in user thinking.

In addition to the full list of interview questions in Appendix A, the coding themes used can be found in their entirety in my accompanying research data submission.¹⁷ Examples of identified qualitative themes included (but were not limited to) the following:

- Algorithmic curiosity: exploring what users knew and thought about algorithms and Spotify recommendations.
- Platform concerns: understanding if users had any concerns or questions about using music streaming platforms.
- User behaviours: exploring the users' listening behaviours and environments that they streamed music in.
- Music mediums: discussing previous or current use of physical music mediums.
- Impact awareness: discussing what users knew about the public discourse around Spotify.

¹⁶ To view the anonymised transcripts, please refer to the accompanying data which has been submitted with this thesis. Refer to 'Noble_Data3_Anonymised Transcripts'.

¹⁷ Refer to 'Noble_Data2_Nvivo Interview Code Books'.

Following this process, the fully presented findings and insights from the interface walkthroughs, API data retrievals, and interviewee data were all pulled into a synthesised collective for final analysis and presented in Chapter 7, in order to draw conclusions in relation to this study's focused research aims and questions.

3.8 Methodological Timeline

This research project was split into five phases in order to successfully collect the necessary data, conduct the necessary analysis, and conclude findings:

1. Firstly, I conducted a literary review (presented in Chapter 2) in order to establish the scope of published academic understanding on music streaming platforms and current surrounding scholarly landscape.
2. Following this mapping exercise, the Python coding for the API was designed, and run in order to collect samples of both the genre seed data, and the Spotify-generated public playlists for the processing of thematic analysis. The Spotify interface walkthroughs were carried out in tandem.
3. Subsequently, the combination of literature and the process of playlist retrieval formed the intentional design of the interview questions, which were then fed into the online recruitment efforts and eventual running of the online semi-structured interviews.
4. The interviews were carried out over a six-month period. Recorded interviews were then successfully transcribed into NVivo software for coding and analysis.
5. The analysis from these interviews were combined with the API thematic analysis strands, interface walkthroughs, and previous literature to draw conclusions in relation to my research questions.

3.9 Research Design Reflections

While my study's methodological approach featured a number of strengths in its interdisciplinary, mixed method approach, there were a number of issues which could have benefited from further reflection or better timing. Where I faced limitations based on my method of choice, I drew on the different techniques from my mixed method approach in attempts to overcome these issues.

Firstly, I did not ask for the specific age of my successfully recruited participants in their consent forms, as I chose to actively apply the data minimisation principle (as outlined in the

UK GDPR, with the intention of safeguarding my data subjects through solid data protection practice (ICO, 2023). However, for the purposes of my research, I would have found it advantageous to know the exact ages of each of my participants, rather than inferring their age brackets. To have known this would have allowed me the opportunity to corroborate age more confidently with specific listening habits or opinions.

Secondly, I adopted the method of video calls to facilitate and collect my interviewee data due to issues around interviewee location and schedules, and the Covid-19 pandemic which took place during the years of my research and data collection periods. While this method offered a reliable answer to the challenges faced at the time, it would have been beneficial to be able to provide interviewees with the option to be interviewed in-person. This may have altered some of my findings and provided me with an easier time of building rapport with interviewees.

Lastly, I chose to utilise the Spotify API to collect a variety of information which was integral to the nature of my study. However, there are identifiable issues with this method of retrieval. The balance of accessibility in API-led research into digital living is notably shifting into areas of new restriction. Scholars have commented on the continual restrictions and regulations put in place by certain corporations in efforts to herd those who desire data insights to monetizable access points (e.g., advertisers and marketers) (Perriam et al., 2020). One response to these restrictions has come from research by Marres and Gertiz (2016) who suggest that academics should adapt their research methods, rather than struggling their way around the regulations. By adopting an “interface approach” where multiple methodological approaches may intersect, scholars are able to examine both the information conveyed by the platform data alongside the output of existing social research methods, resulting in an effective and grounded approach to research questions (Marres and Gertiz, 2016, p.22). However, an even stronger response is found in the call for open access, public research APIs. These would allow for scholars to freely continue social research regarding these highly popular technologies which are in turn, shaping and being shaped by society (Marres and Gertiz, 2016).

As explained in my thesis outline (see section 1.3), Chapters 4, 5 and 6 highlight and outline details of the findings from each of these mixed method approaches. Chapter 4 introduces the Spotify environment through the interface walkthrough and presents the findings of the API research strand. Chapter 5 explores the interviewees’ (also known as ‘users’) methods of Spotify navigation and music interaction. Chapter 6 examines the impact of interviewees’ Spotify usage and their awareness of wider issues around streaming. Lastly, Chapter 7 synthesises these findings and presents key conclusions with regards to my research aims.

Chapter 4 Spotify Interfaces: The Presentation and Operationalisation of Music

As mentioned in Chapter 2, Spotify utilises a number of aesthetic and technological methods to create a manufactured experience for its users. In 2021, there were reportedly over 4 billion user-curated playlists housed on Spotify alongside approximately 3000 Spotify Editorial playlists (Soundplate, 2021).¹⁸ As a result, users are able to consume and interact with tracks from a catalogue featuring over 100 million tracks (ibid.). Playlists are the primary format utilised by Spotify to organise and promote music to consumers of the platform, with the levels of access being dictated by their subscription type. The focus placed on this feature arguably places playlists as the structural backbone of Spotify, providing users with seemingly endless interface interaction.

Regarding capacities and limitations of playlists, Spotify playlists boast vast dimensions, with Premium users being able to download 10,000 songs across five devices. With regard to the number of playlists a user is allowed, this number is reportedly limitless (as of 2023) (Techpenny, 2023). Users are also able to regularly create, edit, and delete their own playlists, with the ability to apply differing levels of accessibility and interaction. For example, a user can choose to keep their playlist private to their own account or make them public to other browsing users of Spotify, and they can invite collaborators to add music into a playlist. A more recent playlist feature is the platform's algorithmic ability to create a 'blended' playlist exclusively between two connected consenting users. In addition to these features, Premium users can also download playlists to their accounts to play offline when there is no connection.¹⁹ These permissions provide users with sensations of freedom, ownership, and power over their own experiences, which relates to previously mentioned work from Zhong et al. (2013), whose studies of the actions of online curators concluded that users were promoted to acting editors in their own right.

It is also evident that this sheer volume of accessibility is in extreme contrast to previous modes of music consumption, collection, and curation in recent decades. Previously, when other physical mediums (e.g., the CD-ROM, cassette tapes, and records...) were the primary method

¹⁸ These statistics do not include Algorithmic playlists which were previously discussed in Chapter 2.

¹⁹ The differences regarding Premium and non-paying subscriptions are outlined in Chapter 6

of music listening, users would need to overcome a number of barriers pertaining to financial and physical issues: including but not limited to the cost of purchases, the need for a compatible player, portability issues, the physical fragility of discs and tapes, not being able to find specific products in stores, and storage issues.²⁰ As previously mentioned in Chapter 2, all that is needed for a user to operate Spotify is an account, a compatible device, and an online connection. To have such little obstruction and – in tandem – such large-scale user access, it is clear that the key advantage of Spotify using playlists as the distribution format on the platform is the flexibility that is provided to the user. For example, by giving the user optional control in the organisation of their musical space, the specific pressure associated with this task is partially relieved from Spotify's service. In order to access the vast catalogues of playlists and material available on Spotify, users must instead interact with the platform's interface.

The Spotify interface is also built to be highly compatible with an assortment of popular media players and can be accessed via desktops, mobile devices, car players, consoles, smart watches, and other smart technologies (Spotify, 2023). In addition to this device compatibility, the application's data is portably based on cloud server methods, allowing application synchronisation with every other compatible device owned by the user in real time (that has the application downloaded). Therefore, users don't need to expend effort to maintain synchronised listening across multiple devices. However, behind the efficient interface of Spotify, a number of systems and established processes are in effect to ensure a streamlined listening experience for users. This streamlining is not only intended to improve a user's experience through application controls (e.g., how they can engage and listen to artists, albums, playlists and tracks), but also extends to how the platform displays and promotes content to users through the front-end interface using playlists, imagery, recommendation technology and hidden metrics. This deployment of efficiency and consistent unification throughout the platform experience raises questions around how music is categorised, how music is packaged into these playlists and how this relates to the algorithmic influence on the platform.

Therefore, in order to address my research aims of understanding how different music is promoted and packaged to users and how a user's valuations and experiences of music have been impacted, it is important to firstly consider the experience provided by the front-end

²⁰ It is noteworthy that the introduction of the World Wide Web alleviated some, but not all issues.

interface, which users must navigate. Thus, the first half of this chapter presents a brief examination on the Spotify interface and how musical tracks are packaged and presented through playlists and the interface's aesthetic design. To supplement this, I provide a step-by-step platform walkthrough, highlighting the key features and pages which are available to users on the Spotify platform, including various images of the platform at each stage of discussion.²¹

While some scholars have provided commentary and analysis on the Spotify interface in previous years, each of these efforts have derived from differing angles of enquiry (Eriksson et al., 2019; Webster, 2020; Vonderau 2019), and in order to create connections regarding the impact of this presentation of music, I provide relevant segments from interviewees in relation to their user experiences of the platform's interface. This exploration consequently aids in building clearer caricatures around factors which facilitate the platform's continuing success and ongoing popularity. Where appropriate, this chapter also offers analysis on the theoretical impact of this presentational packaging.

The second half of this wide-arching chapter then presents the API-related findings, examining the behind-the-scenes tagging and metric measurement of music. I also present the findings of the playlists' thematic analysis in order to understand what categories perform best on the platform and what this means for traditional modes of music consumption and categorisation in this intangible landscape.

4.1 Spotify Front-End Interface Walkthrough

When an existing user first opens Spotify, they are automatically placed in the Home page and presented with a plethora of choice regarding music playlists, depending on which key Spotify page they select. The platform's design theme is simplistic by nature, featuring a black background and minimalist font designs, with bright, standout colour stemming from the thumbnails assigned to each playlist. This luminous contrast serves more than just an appealing interface visual according to Vonderau (2019), who states that the platform is designed in this manner to create a cool and nonchalant appearance, with the intention of hiding Spotify's aforementioned aggressive growth strategy, while creating a sense of relaxation in both users and the wider public in tandem.

²¹ To provide accurate representation, the images provided to supplement this section's findings are time stamped with dates of retrieval.

The key pages are titled simplistically: Home, Search, Your Library, Create Playlist, Liked Songs and Your Episodes (for podcast audio).²² From the interface layout, it is clear that this has been done in order to keep the platform accessible and efficient for users' interaction. Additionally, the platform's algorithmic personalisation features and recommendation systems begin working from the moment of user sign-up, when a user starts interacting with musical tracks and pages.

4.1.1 Walkthrough: Home Page Presentation, Categories and Playlists

On the Home page, users will find a default playlist named 'Liked Songs' which is made to house any track liked manually liked by the user. A track's 'liked' status is represented by a small green heart next to the song of choice, which can be deselected with ease. Users can also 'like' full albums, saving them in the form of a playlist. The key function of a user's Spotify Home page is to offer an abundance of choice, featuring playlists housed under numerous key themes which are updated semi-routinely in associated with seasonal and topical content. The playlists under these themes refresh and update under algorithmic influence of the user's browsing and listening activities. On the Home page, users are primarily shown:

- A list of both Algotorial and Spotify Editorial charts and hits-based playlists.
- A list of Spotify Editorial playlists based on favoured genres, moods, artists, and decades, with each playlist anchored by at least two tracks which the user has saved to their 'Liked Songs' page.
- A list of recommended Spotify Editorial playlists based around recent user listening, with each playlist again anchored by at least two tracks which the user has saved to their 'Liked Songs' page.
- A list of personalised algorithmic and Algotorial playlists based on favoured genres, moods, artists, and decades with new, unfamiliar tracks included.
- A list of personalised 'Daily Mix' playlists (these playlists are compilations of songs from a user's main Liked Songs playlist).

²² It is notable that many of these categories feature a blend of music and audio-based playlists, representing the strategic move by Spotify in 2018 where they began to integrate podcasting. In 2023, Spotify also began to feature audiobooks. However, due to the scope of this research, the user experience of podcasting has been isolated from this music-orientated study, due to the separation of content and experience provided by these distinct artefacts of media.

- A number of default replay suggestions (e.g., the ‘Recently played’ playlist which hosts all tracks to which a user has recently listened).

From this list, it is clear that the playlist varieties and large number of accompanying recommendations is simply Spotify’s engineered method of aiding users in navigating its vast quantity of hosted music. However, scholars have indicated at more commercial and operational motivations, such as Eriksson et al.’s (2019) assertion that Spotify’s recommendations are evidence of the platform’s active framing and shaping of data. The author further critiques the presence of these recommendations, stating that this entails the choice promotion of certain values and identities over others. While Eriksson et al. (2019) acknowledges the need of these operations for the transition of digital music into consumable goods, they also establish underlying politics of around the delivery of such content, meanwhile implicating the notions of the user. This viewpoint is also in close alignment with Gioia’s (2019, p.457) previously discussed theory of ‘the smooth’, which further reinforces the idea of operational uniformity in abundance. However, from the focus placed on granular personalised and the algorithmic packaging of user tastes, the platform could also be aiming to avoid issues such as interface-based uniformity. Nonetheless, I determine that through Spotify’s interface design choice of creating overarching themes, under which specific blends of algorithmic and Editorial playlists are placed, this shows a presentational execution of administrative exclusion and standardisation, which in turn dominates the main commodity in rotation: the music.

4.1.1.1 Personalisation: Algorithmic Mixes and Discover Weekly

As mentioned, in addition to this smorgasbord of Editorial playlists and Spotify themes, users are also presented with playlists which have been sorted and suggested through inference of Spotify’s recommendation algorithms, with these categories and Algorithmic playlists being propositioned as constructed exclusively for the user in question.²³

4.1.1.1.1 Personalisation: ‘Your top mixes’

The first personalised category is ‘Your top mixes’ which features ten playlists, each offering a different themed mix in relation to the user’s recent listening.

²³ The playlists and categories shown are accurate and in rotation since October 2023.

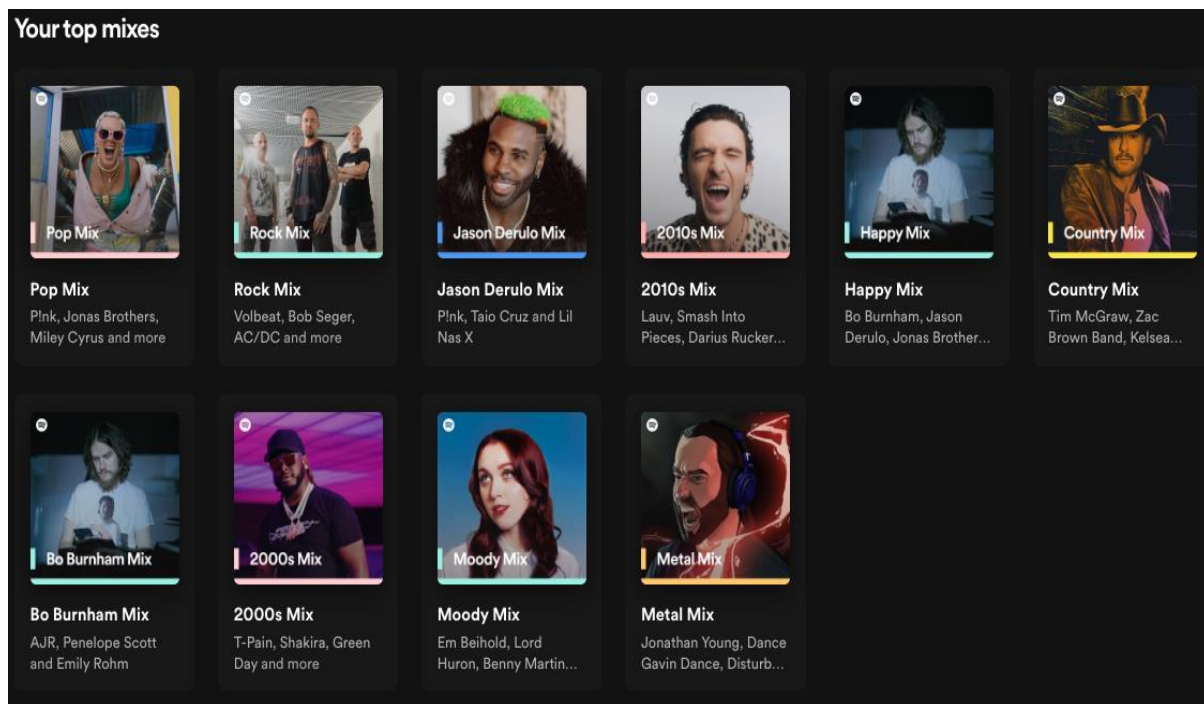


Figure 15: A snapshot of the playlists featured in 'Your top mixes' (retrieved from Spotify September 2023)

As shown in Figure 15, these playlists can be based on different categories: including genres, eras, moods, and artists. What is also shown from this figure is the allowance of duplication in thumbnail imagery amongst groups of algorithmic playlists, which provides an interesting comparison to Spotify Editorial playlists and their strictly curated appearance. Whereas Spotify Editorials have very specifically curated thumbnail and accompanying playlist text, these algorithmic playlists in 'Your top mixes' are simply assigned the Spotify profile image of the first artist named among the collection of artists displayed in the playlist subtext. Furthermore, in reflection of these playlists' labelling, the naming of playlists after specific artists (e.g., 'Bo Burnham Mix' and 'Jason Derulo Mix' as shown in Figure 15) could also be assessed as misleading, due to the playlist featuring more artists than just the named and pictured artist. With regard to presentation, this confirms that less consideration is given to the overall aesthetic presentation of algorithmic playlists. This is an interesting insight into the accuracy and delivery of playlists through mass algorithmic activity, suggestively diminishing the very aspect of personalisation and attention to detail that Spotify advertises as a platform. Additionally, these algorithmically compiled playlists offer little-to-no representation of the layered and complex intricacies that musical genres embody (as discussed in section 2.3.6.1.1). In contrast to the effort shown in the construction of Editorial playlists (as shown in section 4.1.2), users are simply offered traits of the genre as a title (e.g. 'Pop Mix', 'Country Mix')

and the accompanying image of an artist from their recent listening who is associated with the genre. In representation of these genres' cultural traits and origins, these algorithmically generated playlists offer very little, risking the exclusion of key details attributing to genres. This indicates the true priority of algorithmic distribution, which is to organise and promote music, which in this case, comes at the risk of excluding key genre representations and simplifying the layered intricacies of music genres.

4.1.1.1.2 Personalisation: 'Made For...'

In addition to these playlists, Spotify offers what is presented as even more granular personalisation, through a category labelled directly after the user. Within the 'Made For...' category is a collection of six numbered 'Daily Mix' playlists, the bulk of each playlist being generated from a user's liked tracks.

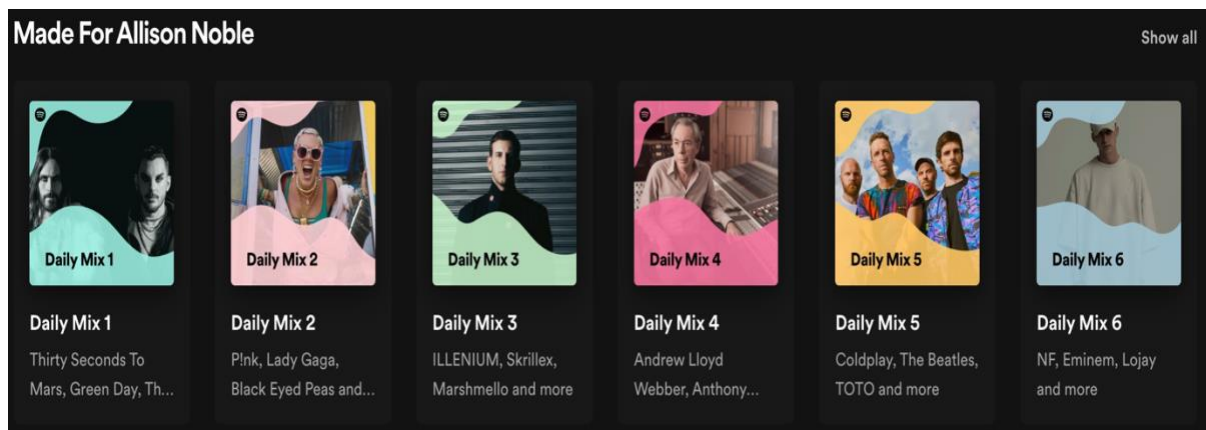


Figure 16: A snapshot of the six 'Daily Mix' playlists (retrieved from Spotify September 2023).

In similar design to the 'Your top mixes' playlists, each of these playlists feature an algorithmically presented thumbnail which features the first artist named on each list. However, unlike 'Your top mixes' playlists, the Daily Mixes remain static in their theme, only being differentiated by number and title heading colour (as shown in Figure 16).

With regards to these playlists, the presence of personalisation is made clear. However, when browsing the remainder of the themes on the Home page, many playlists fall under the umbrella term of Algotorial. An example of this is the number of playlists under the more functionally orientated themed titled "For today's drive" (as shown in Figure 17), whose title demonstrates Spotify's attempts to cover a range of activities among its users. In this case, the playlists in question are alluded to be the perfect accompaniment to a user's portion of the day where they will be driving.

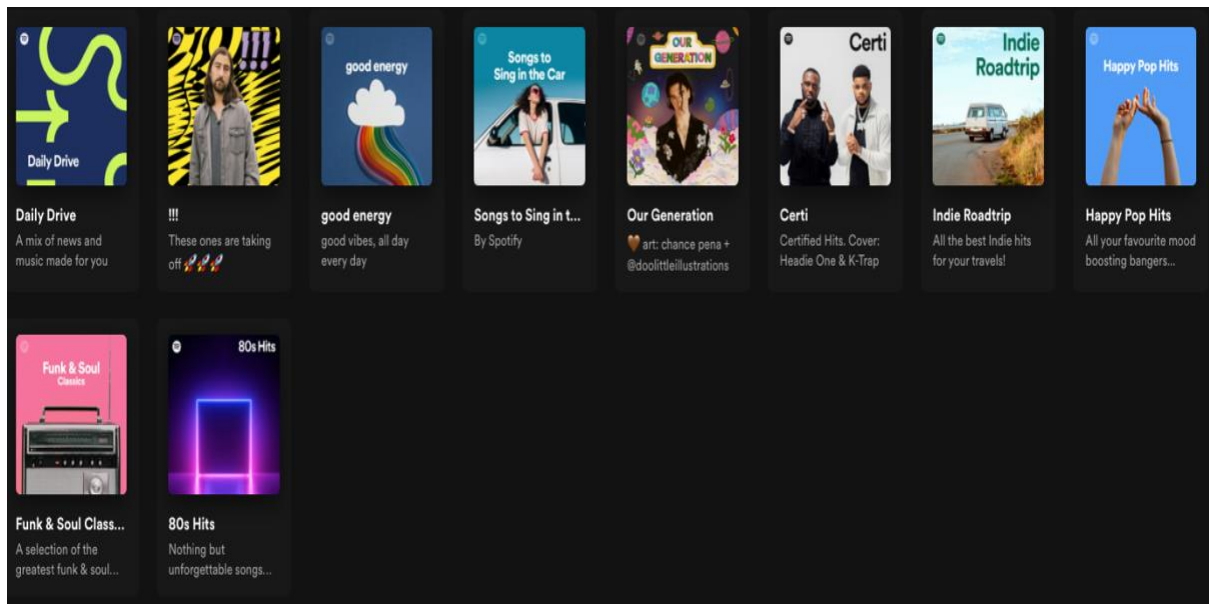


Figure 17: A screenshot of the highlighted playlists being suggested by Spotify for the activity of driving (retrieved from Spotify August 2023).

It is noteworthy that the playlists within this category are a mixture of Algorithmic and Editorial, showcasing the working relationship and split of responsibilities between algorithm and human individual. This scenario, if studied through both the constructionist lens of SCOT or technological determinism, could be interpreted as the preliminary evolutionary step of more definitive decision-making between human employees and machines in music streaming platforms, positively representing two unique parties functioning in harmony under the same commercial purpose.

When Figure 18 is first examined in comparison to the previously mentioned algorithmic playlists in Figures 15 and 16, it is evident from their individually aesthetic artwork, and specific contextual information that an individual has been involved in the curation these playlists (to an extent). Consideration has been shown to the desired audience and portrayed function of the playlist, an example of this being the “Indie Roadtrip” playlist, whose contextual description reads “All the best Indie hits for your travels!”. However, when examined in further detail, it can still be seen that the music of this playlist has been tailored algorithmically for a specific user.

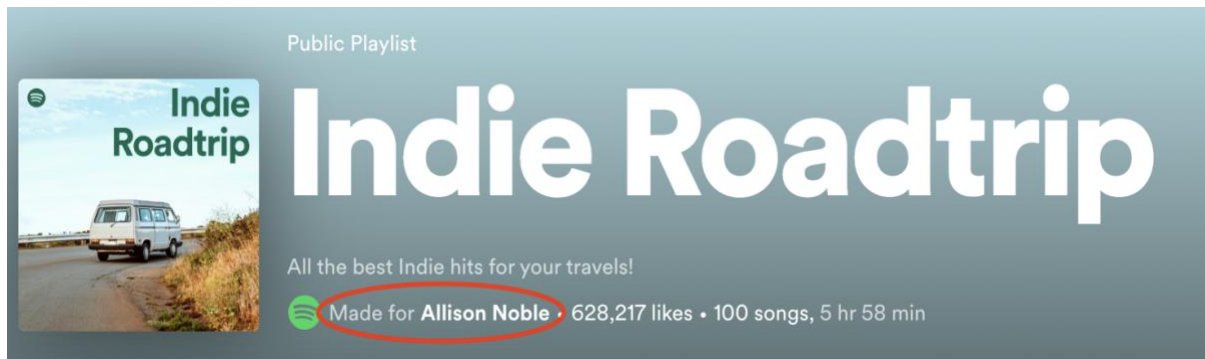


Figure 18: A snapshot of the title and description of the Indie Roadtrip playlist on Spotify, with the personalisation declaration circled in red (retrieved from Spotify September 2023).

The use of personalisation is more discreet in these Algotorial playlists, making it difficult to know which playlists are Algotorial until a user interacts with them. However, what makes these featured collections of playlists on the Home page stand out are the overarching tones of their messaging and labelling which convey the motivations of these playlists as confident and instructional. An example of this messaging is found in the collection of playlists under the signposted theme of “More of what you like”. The clear indication of personalisation through this phrase denotes the intentional selection and insists that this music is specifically what the user in question favours. It could be further suggested that from a deterministic viewpoint, these algorithms are providing guidance and structure to users’ listening experiences on the platform, by shaping their interactions and exposure through various levels of processing and filtering.

4.1.1.1.3 Personalised Discovery: The ‘Discover Weekly’ and ‘Release Radar’ Playlists

In previous discussion of Spotify’s personalised and Algotorial playlists, it was found that the main function of these playlists was the heavy anchoring and recycling of tracks which users already engage with.

However, users are also offered the opportunity to explore new music and artists based on the recommendations of Spotify. The ‘Discover Weekly’ playlist is a weekly refreshing algorithmic list of 30 diverse tracks which is tailored to the tastes of the user through recommendation filtering: containing a mixture of songs that address the different areas of a user’s tastes. This playlist’s presentation arguably takes Spotify’s personalisation even further by utilising the user’s chosen profile picture as the thumbnail for the weekly playlist.

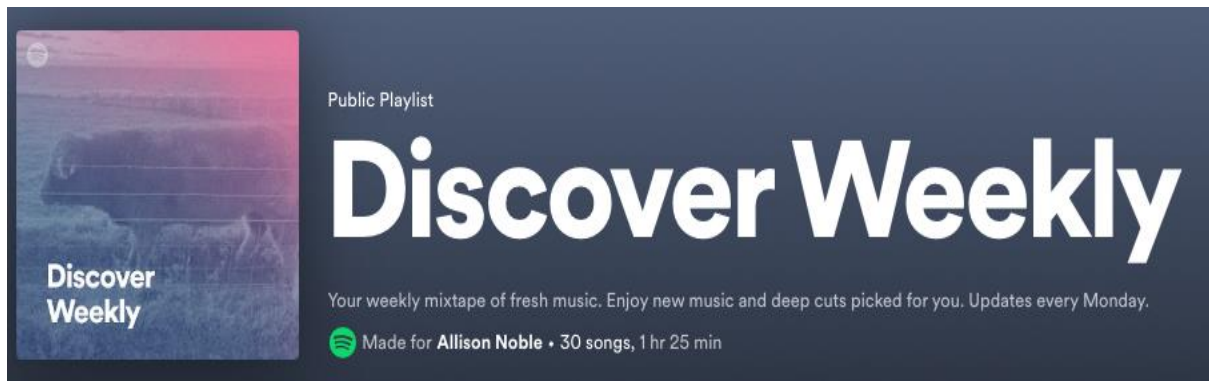


Figure 19: A snapshot of the Discover Weekly playlist on Spotify, featuring the user's chosen profile image as the playlist's thumbnail. (Retrieved from Spotify September 2023).

As shown in Figure 19, this design and presentation choice reinforces the platform's attempts to connect with the user on an individual level and showcases a new evolution of tailored music distribution. Theoretically, this type of playlist (along with other personalised offerings) lessens the effort required of Spotify users and aids in the shaping of their music listening experience.

Through the theoretical lens of technological determinism, this evolution can be viewed in both negative and positive perspectives, with questions being raised around the equality of discovery on streaming platforms. On one hand, the use of algorithmic playlists for music discovery can be viewed as Spotify taking control of music listening by filtering through only suitable music for users based on historical listening practices, thus resulting in the loss of exposure for specific tracks which don't fit into the algorithmic frame for specific users. As mentioned by Johansson et al. (2017) in Chapter 2, the issues of user spontaneity remain an underdeveloped concept and presents an ongoing challenge to recommendation algorithms.

However, it could also be contested that algorithmically personalised playlists such as 'Release Radar' playlist (Figure 20) – which primarily contains music from followed artists – allows for users to subsequently go deeper into their chosen areas of taste, creating more positive developments in areas which they already have strong association, and aiding those specific artists within these areas of question.

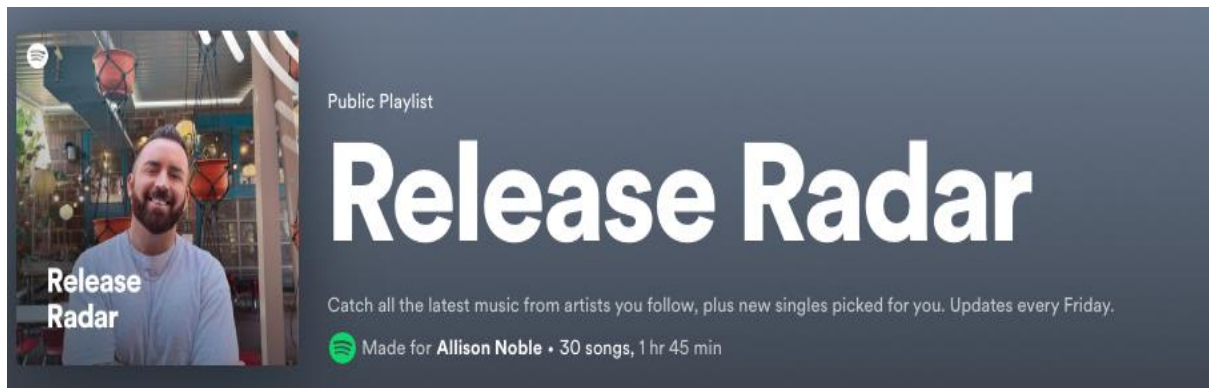


Figure 20: A snapshot of the Release Radar playlist on Spotify, featuring the first artist featured on the playlist's profile image as the playlist's thumbnail. (Retrieved from Spotify September 2023).

As seen from this brief exploration, the Spotify Home page seeks to host as much choice as possible in a semi-structured pattern for the user to engage with at their leisure. From inspecting the variety of themes and playlists, it is clear that the use of algorithmic sorting and recommendation is heavily present on the platform in order to provide as tailored an experience as possible, with a number of playlists heavily overlapping with regard to content or theme. However, due to certain issues around attention to detail and the underdeveloped concept of user spontaneity, it could be suggested that further research is required around algorithmic developments and musical presentation with regard to their impact on user listening.

4.1.2 Walkthrough: Search Page Presentation, Categories and Playlists

Though users are offered a plethora of playlists on the Home page, they are also able to move to the Search page. Alongside the continually present search bar, users are presented with a mixture of pre-established categories to aid their exploration. These categories include live performance recordings, chart-based rankings, moods, scenario-based settings, and algorithmic recommendation-based playlists which are generated from a user's listening habits (such as 'Discover' and 'Made for You').

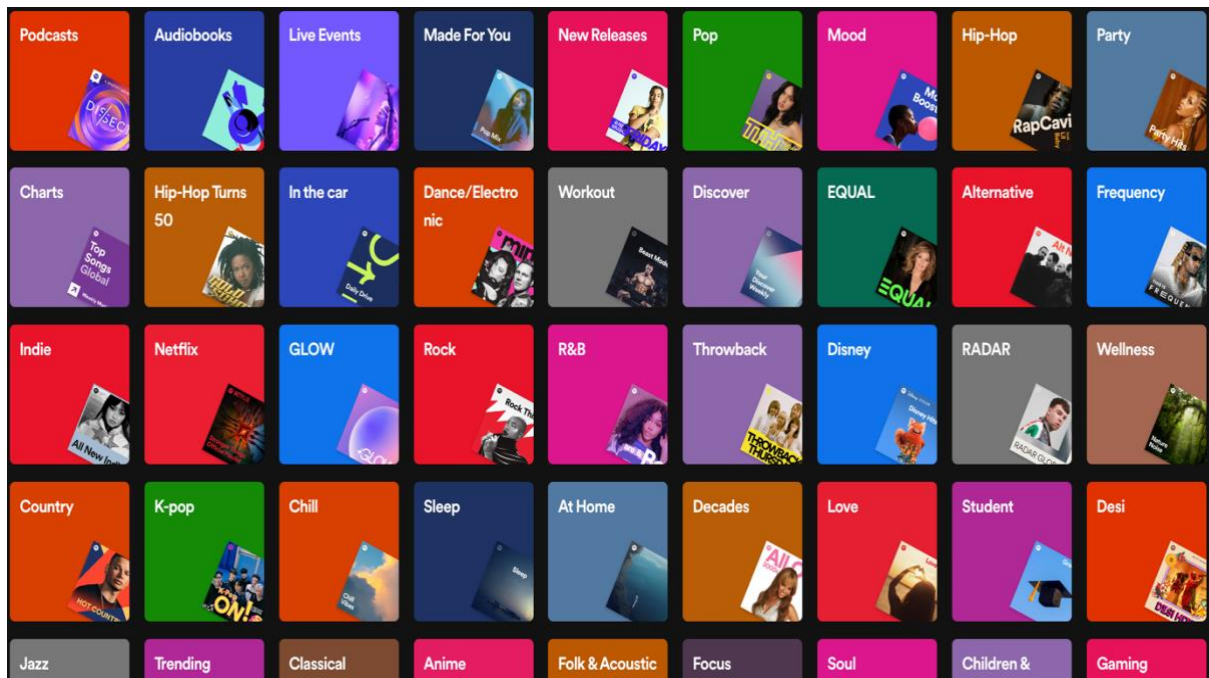


Figure 21: An image showing the different recommendation tiles offered to users when browsing Spotify. (Spotify, 2023 (retrieved from Spotify August 2023)).

As shown in Figure 21 above, users are presented with exposure similar to that of the Home page. Approximately 69 tiles are shown in different vibrant thumbnails featuring a preview of playlists within, encouraging the user to engage. With regard to genre-specific pages, a variety of popular genres (e.g., Rock, Pop, and K-pop...) are given their own pages on the platform. Within each of these pages are a variety of genre-themed playlists aimed to appeal to all sub-cultures and fans within these genres. Users are also given suggestions as to what genres to search through, based on their listening history. An example of this includes the popular Country genre, which is broken down into a mixture of themed, Editorial and Algotorial playlists, with a list of the genre's most popular playlists headlining the page for selection (see Figure 22).

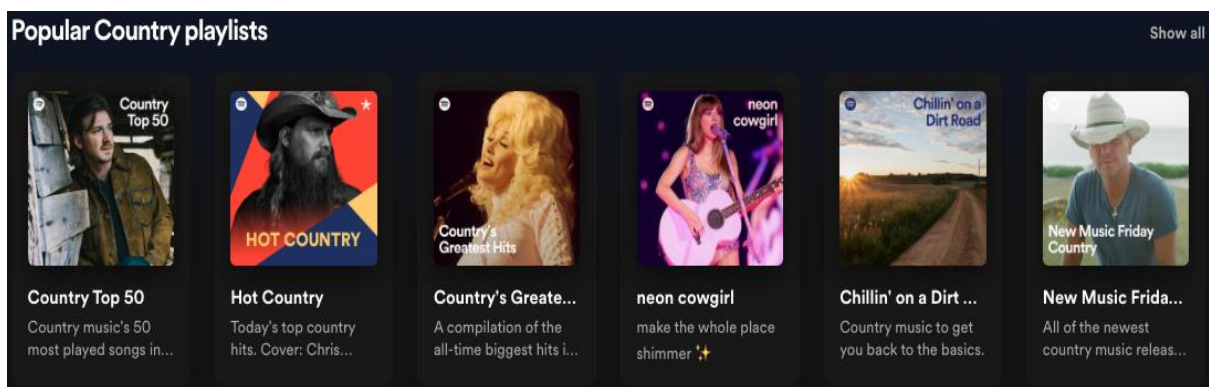


Figure 22: A screenshot of the Country sub-page on Spotify (Spotify, 2023 (retrieved September 2023)).

This high-level inclusion of music genres relates back to the discussion of genre identities in section 2.3.6.1.1, regarding the sociological aspect of music genre and its representation through layering of different identities – relating to factors such as gender, class, age and race. From these interface images, it can be seen that Spotify encases collections of music within playlists and attempts to represent these genres as directly as possible through the utilisation of text and visual imagery. As shown in Figure 22, Spotify draws inspiration for Country from slang and themes of southern lyrics commonly used in Country music (e.g. “Chillin’ on a Dirt Road”). Additionally, the playlists are adorned with visual images of the countryside or of extremely popular artists associated with the genre (e.g., Dolly Parton and Morgan Wallen). Some playlists are further stylized to reflect target audiences, an example being the “neon cowgirl” playlist which is designed to reflect trending internet culture. As shown in Figure 22, the title is in lowercase to reflect popular internet communication practices of Gen-Z audiences (Abirou et al., 2024). Additionally, the image is of Country-turned-Pop artist Taylor Swift in a bejewelled outfit, with the description of the playlist’s featuring sparkling emojis.

It can also be seen that in addition to the tiles featuring with music genres, a number of these pages use broad titles including as demographics (e.g., ‘Glow’, ‘Student’, ‘EQUAL’...), functional titles (‘workout’, ‘sleep’...), environmental titles (‘in the car’, ‘at home’...) and also commercial references (e.g., ‘Netflix’, ‘Disney’...). This is evidence of Spotify aiming to provide as much flexibility as possible in order to encompass the needs of millions of users through the use of identity, locations, popular brands and functionality.

With regards to understanding the varieties of music presentation, promotion, and circulation, the siloed Search pages not only work to keep the musical navigation clearer for users, but keep genres, and other themes separate, allowing for the consequential circulation and promotion of more varieties of music without overlap. This series of pages act as a direct showcase for what Morris (2020, p. 2) describes as the optimization of culture: platforms like Spotify have become the new intermediary position within the music industry, encouraging music to be circulated in an environment which serves to combine the processes of “production, promotion, circulation, and consumption”. In addition, Spotify’s abundance and granularity of choice further showcases the platform’s attempts to influence and direct the users’ listening trajectories through the use of their Algotorial playlists, reinforcing Gioia’s (2019) comments on the commodification and dicing up of cultural goods in order to market more effectively.

This is an important finding which showcases Spotify’s methods of organising vast quantities of music, and how it actively promotes its algorithms as trusted voices in the shaping and

direction of music listening, a practice which is subconsciously deemed by many as truly personal and autonomous.

4.1.2.1 ‘Made For You’ Playlists: Search Page Edition

Spotify’s signposting and positioning as a musical advisor is reinforced through its intensive offerings of granular personalisation in the user’s searching experience. If a user selects ‘Made for You’, on the Spotify search page they are supplied a level of choice vastly greater than that of the Home page. The ten algorithmically personalised themes are:

- ‘Uniquely yours’
- ‘Made For Us’
- ‘Your Genre Mixes’
- ‘Your Artist Mixes’
- ‘Your Decade Mixes’
- ‘Your Mood Mixes’
- ‘Your Niche Mixes’
- ‘Soundtrack Your Day’
- ‘Your Daily Mixes’
- ‘Discover New Music’

It can be seen from this list that the majority of these categories feature “your” in the title in order to drive the message of personalisation to the user. In exception, the category titled ‘Made for Us’ hosts the previously mentioned blended playlists that can be created between a user and selected peers. Similar to that of the previously discussed algorithmic playlists, each thumbnail image depicts an artist featured first on these playlists.

From their placement on this list and on other areas of the page, it is clear that the categories of genre, artist, decade, and mood are featured widely on both the Home and Search pages of Spotify due to their broadness, making it easier for the recommender system to catalogue the variety of tracks that may be featured within a listener’s library into easy-access resources. However, in discussions of the personalised music recommendations, Johansson et al. (2017) highlights that services such these may encounter two common issues: firstly, a lack of data which leads to unhelpful recommendations and secondly, the algorithm’s inability to counter a user’s potential spontaneous actions (e.g., a user allows friends to play different artists through their account at an event, therefore muddying up the recommender system’s data of that user’s tastes).

However, a notable category from the aforementioned list is ‘Your Niche Mixes’. Added in 2023, users are offered ninety-nine different playlists which address a variety of scenarios, concepts, environments, and genres.

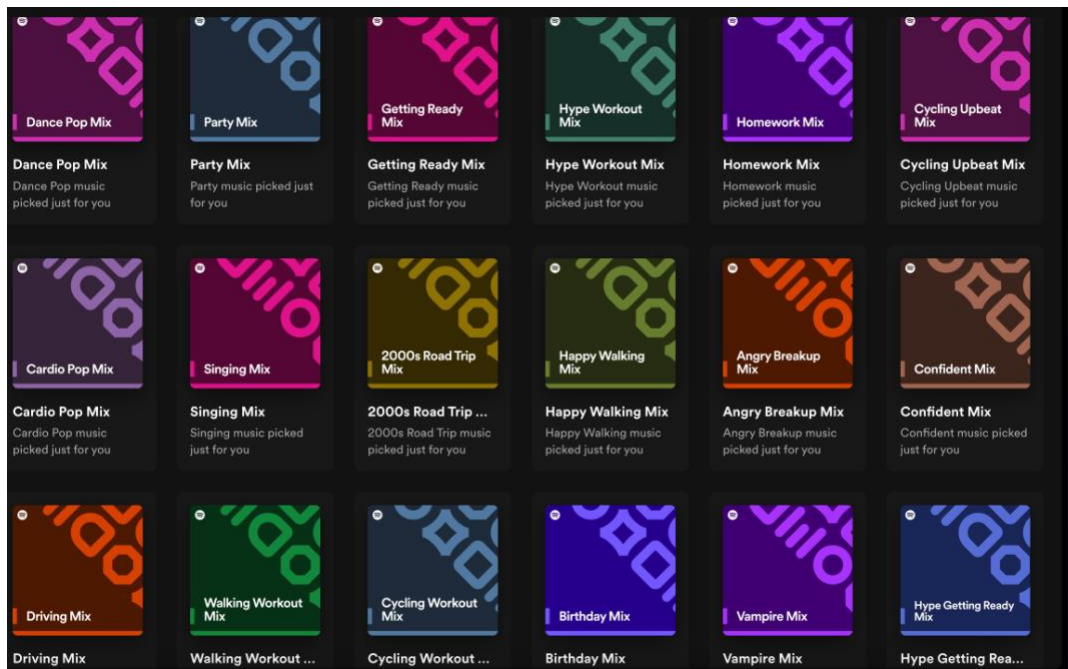


Figure 23: A snapshot of the playlists hosted within the 'Your Niche Mixes' page on Spotify.

As shown in Figure 23, this level of personalisation on such a scale showcases another example of Spotify's investment in the personalisation features of the platform, reinforcing theories that the success of music streaming platforms in the 21st century is grounded in their supply of music in abundance (Hagen, 2016; Katz, 2010).

While this vast assortment of themes and concepts reintroduces reflection on the extreme differences between Spotify's promoted method of music distribution and consumption, there are similarities to be found in comparison to users' interaction with previous historical methods. While Spotify offers instant access to a seemingly endless supply of music, (non-musician) users do not hold any actual control on what content is uploaded, augmented or deleted on the Spotify platform (Morris, 2020). A user's control within the platform is limited to within the default controls of their Spotify account and therefore can only choose from what is available to them through the permission of tiered access from Spotify. Although the sheer volume of music and ease of access may offset feelings of restriction within Spotify's form of distribution, the lack of user control in this specific scenario is identical to historical methods of physical modes of music consumption: where users seek out the music that they desire within the space that they can access (e.g., attending a physically contained store which sells records, CDs or cassettes with limits on stock and availability) (Katz, 2010).

However, a notable modern contrast is found in the flexibility offered by Spotify which allows (and encourages) users to relinquish the task of search and discovery to the platform. When

this occurs, power is placed with Spotify in determining each user's levels of musical exposure. This scenario raises important questions around the required trust that is placed on black-boxed systems such as Spotify and require future scholarly consideration. For example, what effects does such a modern phenomenon in music engagement have on users, and the artists who rely on the processes of Spotify to distribute their music? What does the encouragement of trust in streaming platforms and their personalisation mean for the autonomy of the listener and the musical process?

4.2 Spotify's Continual Evolution of Personalisation

In recent years, Spotify as a platform has continually developed personalisation features in attempts to maintain listener engagement with the platform and its hosted music. The following section briefly explores some of the newer features developed by Spotify and how they aim to enhance users' experiences of personalisation.

4.2.1 Spotify Wrapped: Your Year in Audio.

The Spotify Wrapped campaign sets out to provide users a summary of their listening trends on an annual basis. By compiling the user's listening data from January to December, Spotify develops a short procession of animated and audio slides which dissect the user's listening. These #SpotifyWrapped animations and themes change each year, focusing on the user's top songs, artists, genres, and trends. In Spotify's attempt to bring a new layer of personalisation to the listener's experience, the user received their "listening personality" in the 2022 #SpotifyWrapped edition, calculated through the balancing of four metrics:

- Familiarity (F) versus Exploration (E)
- Loyalty (L) versus Variety (V)
- Timelessness (T) versus Newness (N)
- Commonality (C) versus Uniqueness (U) (Spotify, 2023(d))

Following the calculation of these metrics, the listener received one of the sixteen "listening personality" cards: a brightly displayed tile featuring a visual representation of their listening personality (as shown in Figure 24 below). This process parodies the personality types from the Myers-Briggs Personality Type Indicator - a self-reporting psychological instrument designed to classify a person's personality type, strengths, and preferences (Kroeger et al., 2013).



Figure 24: A snapshot of the Spotify Wrapped 2022 logo alongside two examples of the sixteen personalised listening personality cards generated by Spotify, mimicking a kaleidoscope pattern (Retrieved from Spotify September 2023)

This annual showcase provides users with the option to share animated pages and result cards with their peers by posting their results to their platforms. However, when asked about their engagement with #SpotifyWrapped, many interviewees chose not to engage, as they felt that their listening data was often skewed through others using their account or using their own account for work-based tasks. Although the uptake from interviewees was not strong, the creation, development, and repeated roll-out of #SpotifyWrapped on an annual basis demonstrates Spotify's commitment to entertaining campaigns around user personalisation and data-driven listening.

4.2.2 AI DJ: Spotify's Talking Virtual Host

In 2023, Spotify debuted their new AI DJ which the aims of providing users with personalised daily assisted listening (Goldrick, 2023). This feature was developed through the use of the following technologies:

- Spotify's proprietary personalization technology.
- Generative Artificial Intelligence (AI) which is facilitated through OpenAI technology.²⁴
- The use of Sonantic, an AI voice platform that creates realistic voices from generated text (Spotify (f), 2022).

²⁴ Generative AI uses machine learning models and language processing methods to create new media such as text and images by learning the patterns of their input data, resulting in the generation of 'new' data (Gozalo-Brizuela et al., 2023).

- Input from Spotify genre experts who use these AI tools to scale their expertise platform-wide.

Alongside the artificial intelligence technologies helping to curate musical tracks for the user, the notable addition to this new Spotify feature is the introduction of voice technology, providing the effect of giving a realistic voice to the AI DJ who provides commentary on the tracks and artists being played. The introduction of this technology signifies the next step being taken in the competition of music personalisation, which raises questions around the presence of technologies in the platform-to-user relationship. While voice-assisted devices from companies such as Amazon and Google exist to facilitate music listening, this feature aims to bridge and influence the specific gap between Spotify users and listening services.

4.2.3 ‘The daylist’: The Next Step in Personalisation

In September 2023, Spotify released its latest personalisation feature in the form of a playlist simply titled as the “daylist” (Naomi, 2023). This playlist updates throughout the day, systematically learning a user’s recent listening history, collecting information such as the different styles of music and times that users engage with the platform. The playlist then customises its contents of tracks to reflect these listening changes throughout the day. Aesthetically, the playlist also changes throughout the day to mimic the time of a day (e.g., sunrise or sunset), and the description text changes to provide new justification as to what contents are within the 50-track list (as shown below in Figure 25) (ibid.).

The marketing aim of this playlist is to bring together the “niche music and microgenres” that users interact with frequently into one algorithmically informed playlist (Naomi, 2023). However, the creation and development of ‘the daylist’ can also be viewed as Spotify’s serious answer to the issue of human spontaneity which has remained a historic challenge to recommendation technologies, as mentioned in section 4.1.1 by Johansson et al. (2017), who highlights that recommendation systems like those used within platforms such as Spotify encounter issues around a considerable lack of data, and the algorithm’s inability to counter a user’s potential spontaneous actions.

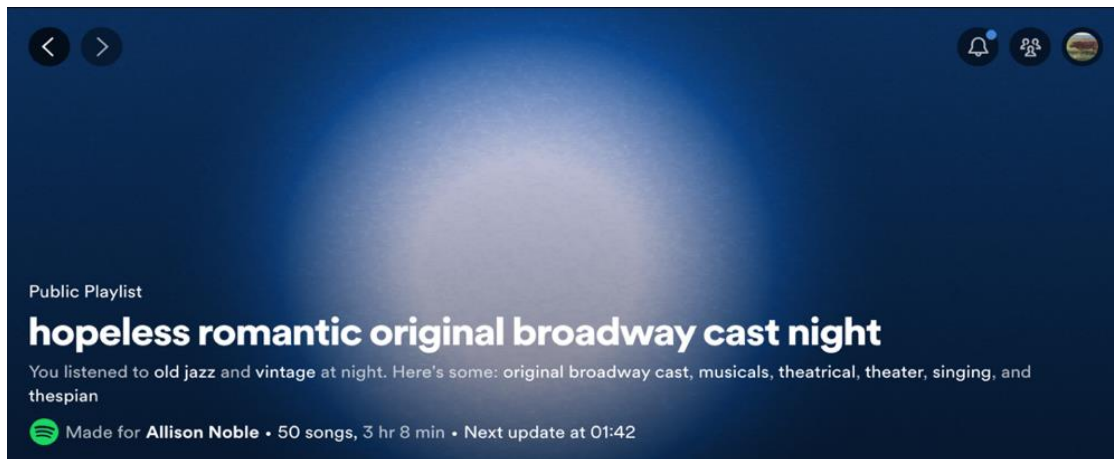


Figure 25: A snapshot of the 'daylist' thumbnail in the evening, featuring algorithmically generated description text describing the playlist's contents, and when the playlist will be updated next (Retrieved from Spotify November 2023).

4.2.4 Personalisation: Where Does This Lead?

These findings show that Spotify continually invests in personalisation technologies through playlists and other novel platform features. From Spotify's attempts to create more intense relationships between users and music listening, there is a need to reflect on how these new relationships may contrast to previous literature on the impact between platform and user relationships. Hagen's 2016 study identified that the keys to platform success lay in music abundance, social network structures and intangibility – with each of these circumstances being affected technologically by Spotify's new development in personalisation. Spotify's use of voice technology also dives deeper into strengthening the "music-human-technology" relationship (Hagen, 2016, p.199). Highlighting these personalisation features is important to the aims of my research, as the listener's expectations of Spotify may shift in future due to the new offerings of assisted listening. Given the very new debut of these technologies, there is a foundational need for future research into the effects of new personalisation, voice-assisted listening, and artificial intelligence on music streaming platforms.

4.3 User Opinions on Spotify Recommendations

As mentioned in Chapter 3, I interviewed Spotify users about their experiences of using the platform, including their thoughts around the presence of algorithms and personalisation features. This section briefly addresses the input from a selection of interviewees around their understanding of Spotify's algorithmic input, alongside their own opinions of the

recommendations that they encounter on the platform. Further analysis of my interviewees' listening practices and their experiences of using Spotify is detailed in Chapter 5, followed by their views around how using Spotify has shaped their musical experiences is featured in Chapter 6.

While this qualitative data does initially provide numerical insights (in terms of groupings), the majority of this project's analytical significance is placed on the qualitative findings in order to explore the unique experiences of these participants in further depth.

4.3.1 User Attitudes Towards Algorithms

When asked about their knowledge of the algorithms used on Spotify, the interviewees' feedback indicated that their understanding was mixed. The majority of users who felt confident enough to answer this question knew that Spotify was using their listening data to personalise their experience on the platform, but a small proportion (6 participants) actually understood or felt confident in speculating how the platform's algorithms functioned.²⁵ Approximately 11 users declared very little awareness of the platform's personalisation processes due to not using the recommendations very often.²⁶ Additionally, three users displayed significantly nonchalant attitudes to this question, stating that they never considered the operational aspect of Spotify's personalisation due to a lack of care or need to know. However, one of these users acknowledged the recommendation systems by admitting that they would regret their listening choices from the previous week if their future recommendations were found to be unsatisfactory. This mixed feedback was liable to be influenced from the professional backgrounds of some interviewees as reflected in Chapter 3, as a number of these users identified strongly as personnel who were well versed in digital platforms due to their work and previous research areas.

When asked if they had ever been curious about the algorithms used to power Spotify, some expressed a great inquisitiveness around the platform's working, specifically around data: how and why Spotify collected it, whose data they collected, and what they did with it. One user whose previous work as a researcher related to issues of privacy in the online landscape stated:

²⁵ Many interviewees made guesses at how the recommendation algorithms functioned on the platform while they listened during their interviews.

²⁶ An approximation is given in this instance due to the uncertainty of some users.

“...I feel like I shouldn't have to worry because I'm paying Spotify and they should just give me the music that I'm paying for, but I get the impression that they do a lot of analytics to try and work out stuff about me, which I don't like, and I wish they wouldn't do it...” – User #18

This curiosity and confusion around the use of personal data, privacy and consent relates to wider issues in the 21st century around online technologies, transparency, and data protection (Zuboff, 2019). While information for users in relation to their use of personal data can be found on the Spotify Privacy Centre pages and their privacy policy, the legal concepts and jargon surrounding personal data can make it difficult for users to truly understand what specifically is happening with their information (Spotify, 2023(e)). Users are also presented with the option to turn off tailored advertisements and linked social media data, and to download copies of their personal data, extended streaming history, and technical log information.

However, users are not able to turn off the tailoring of their data for personalised music recommendations, making clear the key prioritisation of personalisation to Spotify. This mixed feedback in interviewee knowledge of algorithmic functionality, and their lack of control with regards to the personalisation that they receive showcases a power imbalance that favours Spotify, who collects and utilises different types of personal user data to develop and operate personalisation on the platform, using recommendation systems of which users have limited knowledge.

4.3.2 Interviewees Feelings About Their Listening Personalisation

A key issue which arose from my reflection of the Spotify interface was the overlap between many of these personalisation features. It can be seen from the analysis presented earlier within this chapter that many of the playlists and themes were similarly themed, but slightly differentiated. When questioned about the personalisation aspect of Spotify, responses from the participant pool were notably mixed. Many users communicated their enjoyment of the recommendations given by the platform and how they were able to continue listening to music that fit within their tastes. Some long-term users even commented that their music recommendations have become more accurate over time.

When asked how they engaged with personalised recommendations on their Spotify accounts, many interviewees tended to use ‘Release Radar’, ‘Discover Weekly’ playlists, or the ‘Because You Listened To...’ themed recommendations. However, very few users answered that they engaged with the more novel personalisation features such as Spotify Wrapped. This is likely

due to the relative newness of these concepts, or that users prefer to maintain very specific listening practices.

4.3.2.1 Perceived Uniformity Over Spontaneity

Several interviewees shared disappointment surrounding the lack of spontaneity found in both their playlist and artist recommendations, stating that the algorithm and recommendations always proposed the same material. Some users immediately predicted that it was due to their niche listening habits, but those who had more diverse ranges of listening were frustrated with the platform's inability to surprise them.

From the majority of both groups of non-musician and musician participants, these attitudes of dissatisfaction extended into the nature of how Spotify seems to only recommend high-profile artists in its playlist recommendations. Several users (such as User #20) were unhappy with the lack of algorithmic attention towards independent, less commercial musicians. Instead, they found that they had to rely on manual search for DIY artists. Similarly, several interviewees also explained that they felt pressure to only interact specifically with Spotify Editorial or Algotorial playlists, finding that lesser-known artists were only promoted through mainstream Spotify discovery playlists such as 'Release Radar'.

4.3.2.2 A Desire for More User Input

In the previous sections, users gave answers which indicated expectations of Spotify to evolve and get better over time without their input. In contrast to these attitudes, other participants who were dissatisfied with the recommendations put forward more interactive suggestions, such as being able to play around with aspects of the search algorithm and tailor the music discovery filters for their needs. One user suggested actively being able to feedback to the algorithm through simple positive or negative response options (e.g., a thumbs up or down) so that the algorithm could be more informed of its successful suggestions. Another proposal included restructuring Spotify, so that users could navigate the platform like a social media website, where users could interact with each other's recommendations or favourite artists. This suggested feature is arguably already present on the platform, as users are (depending on profile privacy settings) able to see another user's publicly created playlists. However, the social feature of visiting other user's profile and user-made playlists is not commonly promoted, as identified by #User 20 who navigates the platform frequently as part of their employment:

“One thing I don't like is the way that Spotify is continuously trying to suppress any other playlist than their own [Editorial or Algotorial]. As soon as I log in on the Home page, I get a notification saying, “similar to this playlist” and then it only shows Spotify Editorials... they're gatekeeping towards anyone between the artist and Spotify. So, anyone in that space: a curator, a label, a fan. They [Spotify] don't really want the control to be there. They would rather have it as artist-to-Spotify. because that's where their influence lies...” – #User 20

This lack of promotion from Spotify toward user-made playlists indicates that the platform is attempting to shape the trajectory of users' listening experiences by separating out the 'messy' user-made playlists, therefore maintaining the algorithmic functionality by keeping the editorial boundaries of their playlists as curated as possible. This is likely due to the spontaneous aspect of user-created playlists, where completely seemingly randomised selections of music can be grouped together due to personal contexts. A consequence of this is that an algorithm based on specific metrics may struggle to comprehend the reasonings for the groupings and fall short in providing accurate recommendations, threatening the advertised service which Spotify famously provides. There was an awareness among the interviewees surrounding how easily influenced the algorithm was and how it faced limitations, with User #15 going so far as to describe the platform's algorithm as purposefully rigid in comparison to the spontaneous nature of human curators:

I think that they [Spotify] are becoming more uniform, if that makes sense... when a human creates a playlist, you might find an occasional odd song in the playlist that that wouldn't make sense because it's not on the same beat or the same genre, but maybe the lyrics are speaking about the same thing, for example... - #User 15

4.3.2.3 Finding a Balance Between Functionality and Personalisation

This comment from User #15 relates to the present-day discussions circulating AI, digital technologies, algorithms, and how they compare to the human experience. Although these technologies are progressing rapidly in many areas of accuracy, the lyrical, emotional, or cultural context relating to a music track (as identified by a human) can be lost to an algorithm which has no emotions or agency to undertake further research (Morris, 2020). Through the lens of SCOT, this approach from the platforms could be understood as problematic, given that users are being supplied recommendations based on calculations which are not human-centric and do not promote equality amongst musicians. This instead should be understood as a more

technologically deterministic approach from the platform, where Spotify is structured not for the user, but for the benefit of the algorithm which leads decision making and ultimately decides what artists should be promoted to streamers. #User 20 states that there is less attention paid to the aesthetics of algorithmically generated playlists, creating a lacklustre appearance in comparison to the more commercially promoted playlists. They explained how the artwork, wording and attention to detail was not as polished as that of the mainstream Spotify playlists. This point ties in with earlier findings presented in this chapter regarding the 'Daily Mix' playlists and how they noticeably lack the same refinement as Spotify Editorial playlists.

If these answers and comments are examined with regard to user expectations, it is evident that users are demanding more from Spotify's algorithms than their current functionality. Users wish for the algorithm to take the position of supplier, seeker, and informant to a deeper level, whilst also asking the algorithm to develop the new, novel role of entertainer, creating surprise and spontaneity in its recommendations. From these answers, this group of discontented users are arguably looking to place further responsibility and trust for their listening needs and enjoyment upon Spotify, showing a degree of consumer expectation around value for money. User #20 also discussed the need for algorithms to recognise musical context, based on their professional experience of issues that musicians face with algorithms' lack of distinction between artists and their efforts in musical creation and writing:

"The producer making a Lo-Fi song is making a nice little beat, they're really not thinking about it too much, it's there to help people focus. On the other hand, Lady Gaga is putting her efforts into art to express something which is more valuable... a streaming platform can't make a distinction between those two. The only people that will be able to are the consumers..." – #User 20

This insight builds on the previously mentioned data-led issues that music streaming platforms encounter when attempting to make informed decisions (Johansson et al., 2017). It is also evident that these decision-making issues pertain to the lack of context applied to the recommendation's conclusions. However, in order to remedy these issues in accordance with User #20's understanding, there would need to be further understanding around musical complexity regarding creation and technicality, but these contextual issues which may be too high-level for recommender systems such as those utilised by Spotify. This issue again reinforces Gioia's (2019) idea of 'the smooth': as these systems can only operate on the metrics with which they have been coded to consider, meaning that commodities such as

music must be appropriately catalogued or “filed down” in order to slot into this platform’s recycling system, resulting in missed opportunities for further cultural or musicological understandings of the music uploaded to Spotify (for both algorithms and users)(Gioia, 2019, p.457)

4.3.3 User Opinion on Spotify’s Audio-visual Evolution

One of the newer visual features that Spotify has developed is Canvas: the optional addition of short form video that viewers can watch while listening to music. As Spotify is a purely audio-based platform, this feature acts as a promotional tool for the artists, their music videos, or other visual content, which users can search and find on other platforms such as YouTube (Spotify (g), 2023). Although many find this feature an enriching experience to the platform, there are those who disagree with this addition. For example, User #13 shares their disappointment at the platform’s attempt to pull more engagement, stating that it will only encourage their children to engage in more detrimental screen time:

“One thing I don't like about Spotify is that now that for many of the songs, they use the audio, but they also show the music video, while it's playing... especially for my children because it's it was sort of a screen-free thing to do but now it's suddenly involving audio-visual content again... I think it takes away from the musical experience by supplementing with another sense” – User #13

This view highlights an example of how subjective experiences and opinions are working to shape user expectations of the services provided by music streaming platforms. While user #13 hopes for the platform to stay purely music and audio focused, from the interviews, it can be seen that other users wish for the platform’s visual elements to be elevated even further:

“The visual element of it [Spotify] is quite uniform...you could build in some more vinyl-esque additions like those you used to get – pull out posters and lyrics sheets... more of that stuff” – User #14

From these responses, it’s evident that the interviewees’ views around music recommendations can be strongly shaped by each of their own experiences, musical exposure and beliefs. In this case, User #14’s occupation is in the field of A&R management and therefore more features and services from streaming platforms would be considered as advantageous to their clients.

4.4 Interfaces: Summary

As explained in Chapter 3, my research intentions included the exploration of the representation and promotion of music on Spotify. From my findings, the Spotify interface acts as a powerful tool which has been designed to offer simplicity and assistance to its users in the form of intensive user personalisation. Both Home and Search pages offer users an abundance of brightly tailored Spotify Editorial and Algotorial playlists covering a variety of themes and seasonal topics. However, as seen from the interface layout, Spotify creates and maintains an environment of simplicity and assistance in order to not only harness user attention and interactions, but to conceal the platform's powerful algorithmic functionality.

From exploring the front-end interface, it is notable that the ratio of Algotorial playlists numerically outnumber Spotify Editorial playlists. This enthusiasm and investment in personalisation can also be seen in the continual evolutions of Spotify's personalisation features, events, and playlists, with newer inclusions featuring real time updates and AI voice technology. However, this raises questions as to where this continual development of personalised listening will eventually lead, and what implications it will have not only for Spotify users in their listening experiences, but for the wider processes of music creation. In reflection of the sheer quantity of user-based choice that is present, Spotify achieves its marketed desire to have personalised playlists for every occasion. However, due to the overlapping state of many of these features and Algotorial playlists, alongside the lack of promotional attention given to user-created playlists, it is clear that Spotify as an organisation asserts itself as the trusted entity in shaping users' listening journeys. It is also evident from this interface walkthrough that the use of algorithmic input is being further embedded into the platform in order to establish personalisation as part of music listening, making the function a perceived commonality in conjunction with music listening (Vonderau, 2019; Eriksson et al., 2019; O'Dair and Fry, 2020).

Based on the interviewees' answers, information around Spotify's functionality, and algorithmic operations are not transparent. Users also have very little control in the level of personalisation which they are presented with – their only options being to interact with or ignore these offerings. Spotify's algorithms function behind the scenes in ways which are not entirely clear to the lay user, consequently shaping the user's experience within their own individual listening practices on their own devices. Therefore, Spotify comes across as technologically deterministic due to a lack of transparency around functionality in addition to the lack of user agency. It is notable that some users expect – even desire – the presence of other users on

Spotify to be elevated, with the platform's current method of suppressing user-created playlists receiving criticism. It is also clear from these findings that these users are comfortable in expressing desires for more from Spotify as a service: with their various wants showcasing an underlying expectation of value for money regarding personalisation and convenience. This desire from interviewees, alongside Spotify's continual investment in listening personalisation suggests that users hold more power than what is initially inferred by scholars such as Morris (2020) who previously touted the lack of knowledge among the user base of streaming platforms in Chapter 2. However, these users' answers represent a pool of semi-informed users who make clear their expectations of elevated quality, essentiality, and convenience in exchange for use and payment, which is reflective of Wang's (2005) work. Therefore, these findings imply that the balance of power and influence within Spotify's platform-to-user relationship may be more prone to fluctuation than what is represented by the previously featured authors' discussion of Spotify in Chapter 2. Additionally, as Spotify's holds over 226 million users, this may lead to influence on global trends in musical interaction and listening unbeknown to users whose listening journey are being algorithmically shaped (Tadesse, 2024).

The consistent promotion given to these powerful technological tools of personalisation raises important questions around the autonomy of listeners, the uniformity of Spotify's musical landscape, and the effects that this is having on musical creation and process. Arguably, from the discussions listed in Chapter 2, these questions are already being considered within the academic space, with different strands of research influencing the overall conclusion that Spotify is leading music streaming platforms in an irreversible shaping of the future of music creation and distribution. Hodgson (2021) supports this with insights around how stakeholder skillsets are already changing, that DIY artists and record labels are learning to create music that is attractive to the algorithms of Spotify, using techniques that have been shown to succeed in being boosted by algorithms (e.g., featuring a catchy hook within the first 15 seconds of a track) (Byron and O'Regan, 2022). However, in challenge to these more grandiose views, a more positive perspective is that Spotify is successfully streamlining musical access on a global scale, through granular levels of organisation and by appeal to a massive user base, encouraging exploratory action from its users as a consequence.

4.5 Breaking Down Music Representation on Spotify

From my examination of the front-end interface and exploration of Spotify's intense relationship with personalisation, it is clear that Spotify Editorial and Algotorial playlists are displayed in a

uniform fashion across the platform to provide clear signposting for users. However, the front-end of Spotify shows minimal evidence of its decision-making regarding music, leaving users unsure of what data actually influences recommender systems (as shown in section 4.3).

Therefore, in order to understand music's representation on Spotify, it is important to understand how the musical data on this platform is quantified and operationalised in order to power Spotify's playlists on a larger scale.

In order to meet my research aims (outlined in section 3.1), this section begins by outlining Spotify's rich data environment and how audio analysis is used to break down musical tracks into categories which use numerical signposting to aid algorithmic functionality. The second half of this chapter presents the findings from my use of Spotify's API to retrieve and analyse the currently supported list of 126 Spotify genre seeds, additional artist information, and a captured sample of 1397 Spotify-Editorial playlists.

4.6 Spotify and Audio Analysis

As a platform, Spotify is engineered to efficiently deal with hundreds of thousands of uploaded tracks per day, with recent ingest numbers reporting 100,000 tracks are uploaded a day (Ingham, 2022). When a track is uploaded to Spotify, it is broken down into different segments of audio information, creating a bespoke set of metrics to represent that track in an algorithmic process called 'content-filtering', where the content of the track will be measured through its metrics and recommended based on similarities and differences (Glauber and Loula, 2019). The process includes three steps of analysis: artist-sourced metadata analysis, analysing raw audio and utilising Natural Language Processing (NLP) models. Spotify applies this process to every track on the platform, and then combines the content-filtering processes with 'collaborative-filtering': measuring a user's behaviour and choices against other users in order to provide recommendations based on homophily.²⁷ The following section provides an outline of the three-steps of Spotify's content-filtering analysis and reflective summary on the issues that may arise from these steps.

²⁷ While collaborative-based filtering is an important step in Spotify's entire recommendation process, this thesis does not feature the scope (or access to official publication material) to accurately capture the intricacies and consequences of this method. Therefore, my focus will remain on the process of content-filtering musical tracks, which appropriately addresses the aims of this research.

4.6.1 Scanning Artist-sourced Metadata

Upon upload of a track to the platform, an algorithm analyses the track's metadata. This is a combination of metadata provided by the artist or label's distributor and the metadata specific to Spotify (provided through the Spotify for Artist (SfA) pitch form) (Pastukhov, 2022). Examples of this information include (but is not limited to):

- Track title.
- Release title.
- Artist (and featured artist(s)) name(s).
- Songwriter and Producer credits.
- Label (if applicable).
- Release Date.
- Genre tag(s) (provided in the SfA form).

This metadata is then passed on for input into other separate content-based models and the recommender system itself (Pastukhov, 2022). Once the track audio files and artist/distributor-sourced metadata are successfully ingested into the Spotify database, the process of analysing the track's raw audio begins.

4.6.2 Analysing Raw Audio Signals – Spotify's Audio Features

This analysis features twelve distinct metrics which are designated to the sonic characteristics of the track (as shown and described in Table 5) (Pastukhov, 2022). However, there is scarce official literature and specifics provided from Spotify on how analysis using these metrics is carried out. This is due to Spotify guarding the proprietary information around their competitive recommendation operations (Eriksson et al., 2019).

As displayed in Table 5, some features are related to music and others are proprietary measurements created by Spotify (e.g., 'Speechiness' and 'Danceability'). Many of these features are dated back to between 2011 and 2013, having been found in Echo Nest classification work by Jehan and DesRoches (2011). If this use of proprietary wording is framed within Gioia's (2019) previously noted concept of 'smooth', it is evident that marketing tactics are at play: the characteristics of the musical track have been divided in such a way to display track traits of both established musical concepts and novel, new words, providing both clarity and confusion for lay audiences. This mixture suggests ongoing intentional narration of how Spotify measures and values music.

In addition to proprietary wording, there is the presence of eccentric wording: such as the non-musical noun ‘musical positiveness’ which relates to the measurement of a track’s ‘Valence’ (see Table 5 (p.120)). This is captured and measured on a scale from 0 to 1 exhibiting Spotify’s confidence in being able to provide an accurate computational capture of subjective sentiment for computational recommendation, further supporting Gioia’s (2019) ideas on the computational dissection of musical culture and expression for mass consumption. Research into capturing emotions and atmospheric feelings within music has been widely conducted within the academic fields of Music Information Retrieval and Psychomusicology, with terms like ‘positive’ and ‘negative’ being used to describe the valence in a musical source (Collier, 2007; Schuller et al., 2010; Eerola and Vuoskoski, 2011; Hsu et al., 2018)). However, the specific term ‘positiveness’ – traditionally referring to feelings of hope and confidence – is not commonly featured as an associated emotion captured in valence testing and suggests that Spotify may be utilising this term to create another novel combination – potentially for the purpose of lay audiences’ understanding (Cambridge Dictionary, 2024).

While the specific use of this term by Spotify in Table 5 does indicate that influence is provided by positive and negative emotions as measurement variables, the lack of emotive terms which are not synonyms or antonyms of ‘positiveness’ (such as those found in Thayer’s model of mood (Figure 8)) suggests that Spotify’s computational measurements finds the importance of emotion to be limited, potentially reinforcing other academic conclusions of music’s dilution as a result of computational progression (Gioia, 2019; Vonderau, 2019; Johansson et al., 2017).

4.6.2.1 The Absence of Genre

According to the inference of data scientists, these audio features are the first deployed element of Spotify's audio analysis process (Pastukhov, 2022). In addition to audio feature analysis, an additional algorithm analyses a track's time-based structure(s) and splits the audio into segments of varying granularity. This includes:

- Larger ‘sections’: defined by substantial shifts in a track’s timbre or rhythm, highlighting transitions within the track (e.g., verses, chorus, bridge, solo, etc).
- Smaller ‘tatoms’: representing even the smallest “cognitively meaningful subdivision of the main beat” (Pastukhov, 2022).

However, what is notable in Table 5 is that the concept of music genre is missing from Spotify’s metrics – leaving this to be determined by initial artist-provided metadata. This is significant, considering Spotify’s heavy promotion of genre as a playlist theme on the platform’s interface,

and the use of genre as a retrieving parameter within Spotify's API service (further explored in section 4.8.2). Additionally (as seen in section 2.6.3), genre was an important factor within the early work of The Echo Nest – whose systems of audio analysis have greatly influenced the powering of Spotify's algorithms and recommendations (Whitman, 2005; Jehan and DesRoches, 2011). Additionally, Echo Nest co-founder Brian Whitman (ibid.) historically split sampling genres into the “big five” categories of Popular Music: “Rock, Pop, World, Electronic and Jazz” (Whitman, 2005, p.21).

This absence on Spotify could signify attempts to avoid historical issues of subjectivity which have hindered genre classification within the field of MIR (Rockwell, 2012; Lambiotte and Ausloos, 2006; McDonald, 2023). Nonetheless, genre's absence from Table 5 confirms that the status of genre is not established as a key metric of measurement in Spotify, suggesting that certain sociocultural features of a song do not hold weight in Spotify's key categorisation and recommendation practices. Additionally, this implies that genre instead carries out a lesser function on the platform as an additional label for a different algorithmic or filtering task.

Table 5: A breakdown of the metrics used by Spotify to measure musical tracks. All information is found on the Spotify's web pages for API developers (Spotify (c), 2023).

Feature Name	Definition
'Acousticness'	A confidence measure from 0.0 to 1.0 where 1.0 represents high confidence the track is acoustic.
'Danceability'	Danceability describes how suitable a track is for dancing considering the track's tempo, rhythm stability, beat strength, and overall regularity. A value of 1.0 is most danceable.
'Energy'	Energy is a measure that signifies a measure of the intensity and activity of a track. 0.0 represents a low energy track, whereas 1.0 shows that a track is fast paced, intense and upbeat.
'Instrumentalness'	This feature signifies whether a track contains vocals and is measured through 0.0 – 1.0. A track is more likely to be free of vocal content the closer its measurement is to 1.0.
'Key'	This feature represents the track's musical key. This is done by mapping pitches to integers using the standard Pitch Class notation (Cook, 2012).
'Liveness'	This feature detects the if there is any presence of audience in the recording, with values closer to 1.0 signifying a strong probability that the track in question is live.
'Loudness'	The loudness of a track, measured in decibels (dB). This measurement is averaged across the entire track.
'Mode'	Describes if a track is major (1) or minor (0).
'Speechiness'	Represents the levels of spoken audio in a track (measured from 0.0-1.0). The closer to 1.0, the more spoken words are present in the track.
'Tempo'	A track's estimated tempo, measured in beats per minute (BPM).
'Time signature'	A track's estimated time signature. This ranges from the integers 3 to 7 and indicates time signatures of "3/4", to "7/4".
'Valence'	This measure defines a track's musical positiveness. Tracks with a higher valence (closer to the value of 1.0) sound happier and more uplifting.

4.6.1 Natural Language Processing (NLP)

Following the analysis of raw audio, Spotify utilises NLP models to extract semantic textual information describing the track/artist through three distinct pathways:

- Lyrical analysis: establishing themes and meanings from the track's lyrics and highlighting mentioned entities such as places, brands, or people for future recommendation details (Pastukhov, 2022).
- Web-crawled data: analysing how Web users define music online by scraping Web-based wording that is most associated with the track or artist (ibid.).
- User-generated playlists: analysing user-generated playlists on Spotify which feature the track in order to uncover additional information.

In addition to lyrics which are directly paired with the track, these models collect information which provide Spotify with external information outside of the artist's influence, indicating the importance of social and cultural musical opinions framed through consumer opinions and engagement. This method of information collection reinforces observations made around Spotify's motivations in section 4.1: that Spotify aims to capture the human experience through the offering of thousands of socially aware, visually appealing Editorial and Algotorial playlists – many of which overlapped in ideas, trends, and presentational theme.

Computationally Casting a Wide Net

During this three-step process, Spotify collects a variety of data sources to form metadata and metric-led profiles of songs, while also gathering the opinions, engagement, and interpretations of users who interact with them (at unknown times) (Pastukhov, 2022).

When examining this process through the lenses of SCOT and technological determinism, it is evident that Spotify's actions fit into both ideas. Spotify allows its competitive recommendation system to be influenced by the input of human opinions and interpretation, which are externally scraped from the World Wide Web and internally collected from user-generated Spotify playlists. While the process will use only applicable data points (decided by Spotify), the consideration for human input indicates Spotify's acknowledgment of the importance of communal thought on musical material, albeit for commercial efficiency and motivations (Prey, 2018). This modern use also reinforces the strength of historic scholarly ideas around genre and the importance of community involvement (Holt, 2007; Negus, 1999; Middleton, 1990).

However, what makes the platform seem technologically deterministic is the large scale of information collection that is required for each track, in addition to the collection of detailed data of user interactions from internal and external sources. Without official publications and

transparency from Spotify to provide understanding, this profiling activity seems disproportionate to the task of providing musical recommendations (Eriksson et al., 2019). Furthermore, proprietary secrecy leaves scholars and the public largely uninformed regarding the true levels and specificity of information weighting in Spotify's data collections. While the audio analysis metrics are publicly available on the API developer webpage and have been discussed in previous academic works, this data collection shows that other functions (e.g., Spotify's algorithmic functionality) are largely concealed from users, with indications of algorithmic activity only being presented through specific repetitive language used in recommended personalised playlists (in section 4.1)(e.g., 'Because you watched', 'Your top mixes', 'Made For...', 'More of what you like'...). From a theoretical standpoint, this use of data collection in addition to previously highlighted hidden functionality confirms Spotify's use of 'black boxing', making the platform appear mystical and complex to users who only ever experience recommendations through searches or previous listening (Vonderau, 2019). This highlights the platform deterministic traits, as users' recommendations are coming from systems in which they are not entirely aware of the internal workings, or the data needed to power the platform's decisions and recommendations being made.

This idea of technological determinism is further reinforced through the computational nature of these metrics, although their presence is a demonstrative nod to the complex tasks which are undertaken by Spotify in order to provide personalised recommendations at scale with competitive efficiency and accuracy. However, from the cultural perspective, it is conceivable that these metrics take the majority of music's essence and water it down into binary form, with the weighting of social and cultural data remaining a grey area (due to a lack of official documentation). While the range of metrics used leave little room for inaccurate signal processing, there are components of the songs drawn from external sources which may range in accuracy and information: including but not limited to song context, artistic history, and cultural meaning. For many artists, these factors are key components of the creative process and musical development, and artificial intelligence may misinterpret or miss information which is considered important to an artist's identity, genre attributions, or message(s). Therefore, the algorithmic process may encounter gaps that cannot be filled without the input of a human artist or Spotify editor who holds curatorial knowledge. As a result, this outsourcing of information in a process which breaks down tracks into audio components used for filtration, raises several important questions around the treatment and operationalisation of music, and how Spotify, as a company, value the very commodity in which they are hosting.

4.7 Case Study: Using Spotify API Data in the New Genre Landscape

As previously mentioned in Chapter 2, there have been a number of efforts within the MIR field to map music genre. An example of this is Glen McDonald's ongoing and aforementioned Every Noise at Once project which provides visual mapping in correlation to the 6,624 genre-shaped 'items' which exist on Spotify (McDonald, 2023).²⁸ McDonald also worked at Spotify as a 'Data Alchemist' and aided in the functionality of certain platform features such as 'Daily Mix' and 'Related Artists' tabs (both of which require substantial algorithmic input), explained that the project aims to capture more accurate genre concepts by using layers of data-led analysis to form the interactive scatterplot diagram. In a 2018 interview, McDonald explained that they created genres from scratch, adhering to three main patterns:

1. Functional music.
2. New world musics.
3. Genres that don't have names yet (Johnston, 2018).

However, McDonald's project holds no specific taxonomy in relation to genres and allows any degree of genre overlapping across the visual map in order to display closeness between genre relationships. Therefore, it is notable that many of these genre concepts identified by McDonald (2023) are not universally recognised.

"Be calmly aware that this [project] may periodically expand, contract or combust..."

– McDonald, 2023

The importance of discussing McDonald's project lies in its fuel – the use of rich Spotify data points, signifying that there is a wealth of musical diversity buried within the Spotify platform. However, when examining the range of musical genres available to front-end users through the interface and promoted representation of this music, this experience could be described as particularly simplistic – especially in contrast to McDonald's (2023) extensive genre list.

However, there is a need to examine is the contemporary attitude held by McDonald. As previously mentioned, he names one theme of the genres he discovers with as 'genres which don't have names yet' (Johnston, 2018). However, this does not stop McDonald from attempting to name the genres to see if they then "become a thing" (ibid.). If we examine this specific process, against the genre discussions presented in section 2.3, it is clear that naming genres as you find them within aggregated data does not feature as a traditionally acceptable approach

²⁸ This figure was updated on Every Noise at Once as of June 2023 (<https://everynoise.com/engenremap.html>).

in musicological study (Lena and Peterson, 2008). In contrast, McDonald's contemporary approach to genre gamifies the categorisation of music and creates an attitude of triviality in the naming process, using metaphorical puns as systems to name new types of music.

"Escape Room is a particularly in-joke sort of name—it feels connected to trap sonically, although it's more experimental-indie-r'n'b-pop that spins off from the sonics of trap. I just thought about 'the trap,' and the idea of puzzle-solving in an escape room... Preverb is another one that I named; it's a play on 'reverb,' nodding to the acts' emerging nature." – Glenn McDonald (Johnston, 2018)

Although this practice represents an arguably deterministic new age of music categorisation, powered by black-boxed technology, these practices carried out by McDonald offer a new twist on Holt's (2007) aforementioned theory of how a genre is formed: repetitive acts which are implemented by a group (e.g., software, and human collaboration). The practise of genre creation is also usually accompanied by the presence of new social procedures. In this situation, the new social procedure originates and is sustained by the digital technologies which have emerged into not only the musical landscape, but the scholarly environment. This idea of new genre creation for the purpose of informing a platform, raises further important questions around the attitudes of Spotify as an organisation towards music, and the treatment and digital dissection of music on large commercial platforms. Additionally, this also brings again into question what factors do and do not make a genre.

Given the vast volume of Spotify traffic, the platform's algorithmic functionality must be effective in filtering tracks and pushing playlists in fashions which captivate the attention of audiences. Users are encouraged to continue using the platform due to the curated experience supplied by the Spotify algorithms. Therefore, the platform must continue to maintain tight controls over music discovery, playlist promotion and user experience. However, unless a user has the relevant coding knowledge and software to retrieve such portions of data, this experience remains somewhat of a mystery.

4.8 API Data Retrieval: Music Genre Seeds

As previously mentioned in section 3.3.2.2.1, Spotify utilises seeding to assign each genre a fixed seed value so that they can be reproduced for use within algorithmic recommendations and API retrieval (Spotify (c), 2023). The retrieved genre-seed list is returned through the API as an array of strings (text names (e.g., "samba" or "alternative")) with a fixed integer. Spotify does not disclose if more genre seeds exist on the platform, or how often these genre seeds may change or evolve, with some "insiders" and academics predicting that over 1300 genre seeds

may exist on the platform (Krogh, 2023; Dugar, 2023). This lack of information (and potential access) reinforces the previous commentary provided by Perriam et al. (2020) on the consequences of API limitation and the power held by organisations like Spotify who can potentially influence research parameters through restriction. However, categorising by music genre remains as one of the most consistently utilised practices of categorising music in the commercial field and also in scholarly research, with new discourse emerging on music genre classification every year (Pelchat et al., 2020; Elbir et al., 2020; Prabhakar et al., 2023; Cuadrado-García et al., 2023).

4.8.1 The Process

To retrieve the genre seed sample list, I carried out the following coding:

1. By using Python coding language, a segment of code was created which aligned with the parameters of the Spotify API (Spotify (c), 2023). To view the constructed code, please refer to Appendix E(E1).
2. Once this code successfully connected to the API, a series of instructive requests were sent, asking to obtain the available list of genre seed details for my analysis.
 - 2.1. The code displayed in Appendix E(E1), showcases the request being made to retrieve specifically Spotify-made playlists
 - 2.1.1. (line 22: `(sp.recommendation_genre_seeds()[“genres”])`).
 - 2.2. Following the implementation of the API request, a total of 126 genre seeds were retrieved from the platform and stored in a text file (‘.txt’).²⁹ The seeds were then extracted from the text file and placed into a table (labelled Table 6 below) and examined firstly in reflection of Jacob’s (2004) previously discussed systems of categorisation and classification as shown in Chapter 2. The thorough interface-walkthrough from Chapter 4 was also considered during this inspection.

4.8.2 Genre Seeds Findings

As shown below in Table 6, this list contains a highly varied selection of seeds, with some seeds relating to core music genres, their sub-genres, and others aligning with much broader concepts. In reflection of Jacob’s work (ibid), it can be seen that the seeds present in Table 6 are categories which reflect the basic level of categorisation. This means that the categories in question hold generic level concepts and contain the most striking differences from each other.

²⁹ These were the current state of Spotify’s genre seeds as retrieved through use of the Spotify API in June 2021.

Table 6: A list of the 126 genre-seeds retrieved from Spotify on June 2021 using the Spotify API.

1	acoustic	43	goth	85	philippines-opm
2	afrobeat	44	grindcore	86	piano
3	alt-rock	45	groove	87	pop
4	alternative	46	grunge	88	pop-film
5	ambient	47	guitar	89	post-dubstep
6	anime	48	happy	90	power-pop
7	black-metal	49	hard-rock	91	progressive-house
8	bluegrass	50	hardcore	92	psych-rock
9	blues	51	hardstyle	93	punk
10	bossanova	52	heavy-metal	94	punk-rock
11	brazil	53	hip-hop	95	r-n-b
12	breakbeat	54	holidays	96	rainy-day
13	british	55	honky-tonk	97	reggae
14	cantopop	56	house	98	reggaeton
15	chicago-house	57	idm	99	road-trip
16	children	58	indian	100	rock
17	chill	59	indie	101	rock-n-roll
18	classical	60	indie-pop	102	rockabilly
19	club	61	industrial	103	romance
20	comedy	62	iranian	104	sad
21	country	63	j-dance	105	salsa
22	dance	64	j-idol	106	samba

23	dancehall	65	j-pop	107	sertanejo
24	death-metal	66	j-rock	108	show-tunes
25	deep-house	67	jazz	109	singer-songwriter
26	detroit-techno	68	k-pop	110	ska
27	disco	69	kids	111	sleep
28	disney	70	latin	112	songwriter
29	drum-and-bass	71	latino	113	soul
30	dub	72	malay	114	soundtracks
31	dubstep	73	mandopop	115	spanish
32	edm	74	metal	116	study
33	electro	75	metal-misc	117	summer
34	electronic	76	metalcore	118	swedish
35	emo	77	minimal-techno	119	synth-pop
36	folk	78	movies	120	tango
37	forro	79	mpb	121	techno
38	french	80	new-age	122	trance
39	funk	81	new-release	123	trip-hop
40	garage	82	opera	124	turkish
41	german	83	pagode	125	work-out
42	gospel	84	party	126	world-music

In reflection of Lena et al.'s (2008) analysis of genre classification and the AgSIT trajectories (as discussed in Chapter 2), this Spotify genre seed list features a range of the authors' previously highlighted genres, some of which are traditionalist genres which have experienced the entire trajectory (e.g., bluegrass, gospel, salsa...), to genres which remain scene-specific (e.g., garage, black-metal, grindcore...), signifying a varied genre selection which is expected of a music streaming platform. It is also in reflection of Lena et al.'s (ibid.) work, that the inclusion of these genres in Table 6 both challenge and confirm previous predictions of the World Wide Web's effect on genre, that new music genres and trends are created and nurtured by the Web at a frequent rate (Fabbri, 1999; Lena et al., 2008). However, I determine that the Web has not only aided in the creation of new digitally savvy genres, but that music streaming platforms (specifically) have played a role in the digital archival of pre-established genres which may otherwise be missed by audiences, due to previous obstacles such as location, financial means, or lack of exposure through social communities. The remainder of this section presents my examination of this sample of 126 genre seeds.

4.8.2.1 Varying Levels of Representation

Upon closer inspection, a striking trait of this limited portion of genre seeds is the variation in granularity regarding the representation of some music genres over others. For example, this retrieved seed list features 'metal' as an individual seed, alongside five proposed separate subgenres as seeds: 'black-metal', 'death-metal', 'heavy-metal', 'metalcore', 'metal-misc'. This is a high level of representation in comparison to other genres such as jazz and country which are only represented by one root genre seed in the list. These varying levels of representation may be due to the potential retrieval limits which are imposed on the API through Spotify's policies, or that the genre seed list features more representation to genres which are more popular in terms of interaction. Another noteworthy inclusion is the presence of the 'world-music' seed, which (as states in section 2.3.2) many consider to be a controversial genre due to its origin in the 1980s as a marketing term for all non-western music following Paul Simon's successful *Graceland* album (Kalia, 2019). This genre's unpopular status is understood by Spotify, evidenced by the absence of Editorial attention on the Spotify front-end user interface. Instead, when a user searches for 'World Music', there is only one Spotify-Algorithmic playlist on the platform, which has been curated for that user. Instead, Spotify Editorials adopt the use of the term 'Global' (e.g., 'Global Groove' and 'Global Hip-Hop'), or use specific genres, such as the playlist "World Folk".

This presence of the term on Spotify could also potentially relate to an underlying influence of Whitman's previous work which included similar terminology (as mentioned in section 4.6.1). Given that Whitman founded the Echo Nest technology which was later purchased by Spotify, it

is possible that these terminologies and techniques have permeated into Spotify's algorithmic functionality (Couts, 2011). Therefore, while many believe that 'World Music' is archaic, this label/seed being used in the backend of Spotify confirms that the controversial term still holds weight in recommendation technology. However, the hiding and dilution of the term on the user interface signifies that Spotify are operating with a sense of social awareness to avoid future issues around representation of musicians.

4.8.2.2 An Era Where Lifestyle Meets Music

Additionally found in this list of genre seeds are the presence of seeds which are not affiliated specifically with a musical genre. Instead, they represent broader, everyday events and concepts which relate to language, emotion, functionality, and lifestyle:

- 125: Work-out
- 99: Road-trip
- 111: Sleep
- 116: Study
- 48: Happy
- 104: Sad

The inclusion of these concepts in such a limited list shows the importance Spotify places on playlists and tracks which are being themed around a user's daily life (and other more niche scenarios). This is supported by the previously mentioned categories and themes found in the interface walk-through described in section 4.1, showing that users are recommended playlists for driving, exercising or being in the home. The presence of these seeds again calls into question the idea of what a genre actually is, and challenges conceptions that genre can only be related to music.

There is also an interesting inclusion of language which contributes to an overlapping of meanings in this list: the term 'children' and 'kids' are both present alongside the similar terms of 'movies', and "soundtracks". Theoretically, this could signify that this genre list is accommodating for different geographical listeners and music types, through these differing etymologies (for example, the use of the term "children" may be stereotypically attributed to European countries). However, these genre seeds alone do not define the decisions of Spotify's recommender systems. Instead, it is evident that the inclusion of these seeds effectively in add another layer to the manufacturing of Spotify's musical experience. These specific seed presences also signify an era of listening where – like in many areas of the digital landscape – an overlap between human experiences entities have been factored in and operationalised.

4.8.2.3 Digging Deeper

In examination of Table 6, it is both notable that these specific 126 seeds were returned. In comparison to the 80 million songs which are reportedly held on the Spotify platform, and the previously mentioned 6,624 genre-shaped items created from McDonald's (2023) project, this limited list creates questions around the true number of genre seeds available on Spotify (Williams, 2023). One aforementioned explanation is that these seeds are the base-level categories from which all other genres are created. Another explanation for this limitation, is that there is a boundary on the number of seeds that could be returned through the API, with 126 meeting the maximum threshold. Additionally, with regard to music genre representation, the range of genres represented are significantly imbalanced, as there is an absence of notable popular sub-genres (e.g., progressive rock, Brit-pop, soft rock, doom metal). Whilst these examples can be considered as subjectively influenced through Western experiences, there is also a notable lack of representation of other global genres and sub-genres: such as those from the Middle East, Africa, and Central and South Asia. It is also notable that some of these sub-genres are significantly niche, such as 'minimal-tech', 'idm' ('intelligent dance music'), or seemingly unique seeds which have been created specifically for the platform (e.g., 'pop-film'). Similarly, this list could be incomplete through technical limitations, but this does raise question around what representation means to Spotify.

As a global platform that facilitates millions of users and billions of playlists, this question of genre depiction is an important one, not only to musicians using the platform, but to users around the globe utilising the platform to connect with diverse ranges of musical content (Williams, 2023). Therefore, to further explore the depth of representation of genres on Spotify, I coded the API to retrieve any available information regarding artists and their genre tags (to view the constructed code, refer to Appendix E(E2)). This test would also check if artists could have more than one genre from the genre-list assigned to their name.

I initially trialled this against the established country artist, Dolly Parton. As a result, the API returned three genres for Dolly Parton: 'classic country pop', 'country', and 'country dawn'. Not only are 'classic country pop' and 'country dawn' absent from the presented genre seed list (Table 4), but when searching these three tags on the Spotify platform, the only term which matched with a promoted genre and a number of Spotify Editorial playlists was 'country'. For completeness, this test was repeated on other artists with the following genre results displayed exactly as they are retrieved.³⁰ However, a missing hyphenation was not considered a

³⁰ Any tags which had character differences were not considered a match in this test (e.g., 'r&b' does not match 'r-n-b' on the seed list).

mismatch, as the same words and statement were still present. The results were retrieved and then placed into Table 7 below to showcase which tags were and were not present. The result of this test shows that each of the 9 artists had one genre seed which matched the list in Table 6. However, apart from one artist (Taylor Swift), each of the artists featured at least one genre seed which did not feature in the Table 6 list. In total there were 19 genre tags retrieved which were not included in the originally retrieved seed list. One possible explanation is that the originally retrieved seeds in Table 6 are the base-level categories from which all other genres are created and generated through algorithmic workings. However, a more probable explanation for this limitation, is that the technical boundary in place on the number of retrievable seeds through the API means that lesser-used genre tags cannot be retrieved.

Both the presence and reported absences of these tags in the API data indicates that the platform that is aiming to capture the human experience of arts, expression, creativity, and culture through computational methods, while maintaining a level of black-boxed secrecy. However, the inability to view these seeds and tags at the front-end interface presents the Spotify platform as a deterministic technology: making constant decisions and recommendations around artistic and cultural creations, based on minute measurements and tags which are largely unknown (to users) in both complexity and accuracy. This absence of viewership in addition to genre's absence from Spotify key music metrics (as detailed in section 4.6.1) implies that while genre seeds and tags hold an incrementally important position in the process that is Spotify's recommendation engineering, the concept of genre itself is not initially important to Spotify when establishing a track. Instead, genre acts as a lesser additional label, used to filter and tag tracks which have already been measured through the metrics listed in Table 5.

Table 7: The results of testing different artist genre tagging (retrieved August 2023).

Artist/Composer's name	Matching genre seeds from Table 6	Additional genre seeds not included in Table 6
Michael Jackson	'soul'	'r&b'
Elvis Presley	'rockabilly'	'rock-and-roll'
Taylor Swift	'pop'	-
Ed Sheeran	'pop'	'singer-songwriter pop', 'uk pop'
Missy Elliot	'hip hop'	'dance pop', 'hip pop', 'neo soul', 'pop rap', 'r&b', 'rap', 'urban contemporary', 'virginia hip hop'
Muse	'rock'	'alternative rock', 'modern rock', 'permanent wave',
Calvin Harris	'edm', 'house', 'pop', 'progressive house'	'dance pop', 'electro house', 'uk dance'
Johann Sebastian Bach	'classical'	'baroque' 'early music', 'german baroque'

4.9 Retrieving Spotify Playlists

Following on from discussions around the presence, quantity, and use of genre seeds and tags on the Spotify platform, I specifically examined the titles and concepts of 1397 Spotify Editorial playlists, in affiliation with my research aim to explore trends in how music is presented on this platform to its millions of users. As previously mentioned, there are over 4 billion playlists on Spotify, including the creation of playlists by Spotify users. However, this project specifically examined Spotify Editorials, as these public playlists are designed and distributed specifically by Spotify, avoiding issues of privacy and user consent.

4.9.1 The Process of Playlist Retrieval

To collect the playlists needed for the following thematic research, I carried out the following coding:

1. Using Python coding language, a segment of code was created which aligned with the parameters of the Spotify API (Spotify (c), 2023). To view the constructed code, refer to Appendix E(E1).
2. Once this code successfully connected to the API service, a series of instructions were executed, retrieving as many public Spotify Editorial playlists as possible for the purpose of sifting and analysis.
 - 2.1. The code displayed in Appendix E(E1), showcases the request being made to retrieve specifically Spotify-made playlists:
 - 2.1.1. (line 9: “playlists = sp.user_playlists‘spotify’”).
3. The large list of 1397 retrieved playlists were transferred into a text document and then converted into an Excel spreadsheet for thematic analysis.

4.9.2 Establishing Categories

My original research aim was to sift through the retrieved playlists, and sort them into ten broad categories (e.g., Genre, Mood, Environment, Artist, Functional...). However, upon sifting, it was found that a large proportion of these playlists did not fit into these pre-established categories, and that there was a need for more granularity in the approach of my experiment. Therefore, a more effective method was established, where playlists were sifted, and new categories were established based on the event that a specific playlist could not be suitably placed into any pre-existing category. Although 1399 playlists were initially retrieved from the API, to aid accuracy, every retrieved playlist was checked against the Spotify interface to ensure its existence. As a result of this, it was found that two playlists were removed from the total, as they could not be

found to exist on the Spotify platform from the time that the playlists were retrieved and sifted, leaving my study with 1397 playlists. The Spotify platform was also referenced for additional information (e.g., biographical or playlist abstract information) for retrieved playlists which were not titled in the English language, in order to make sure that these playlists were placed into the relevant categories. The playlists were sifted and sorted through a total of three times for accuracy and in order to allow for comparison in any sifting variations, affording me the chance to identify more efficient categories. In conclusion of this process, the total number of retrieved playlists was reduced to 1397 and overall, a total of twenty categories of playlists were established as shown and described in Table 8 below.³¹

Table 8: A table showcasing the twenty categories established during the playlist sifting (established in 2021).

Category	Defintion
PERSON-SPECIFIC	Label suggests that playlist contains music created by, performed by, or based on one or more specific individuals (e.g., artists, composers, story characters...)
MUSIC GENRE	Label suggests that playlist contains music characterised by similar form or style.
FUNCTIONAL	Label suggests that playlist contains music which has a related task, purpose or functionality.
ENVIRONMENT	Label suggests that playlist contains music focused on a specific location or setting.
LANGUAGE or REGIONAL FOCUS	Label suggests that playlist contains music in a language other than English, or that relates to a specific region, country or continent.
MOOD or FEELING	Label suggests that playlist contains music which induces or relates to a mood, feeling, or state of mind.
ERA	Label suggests that playlist contains music focused on a specific period of history (e.g., 1980s, golden age...).

³¹ To view the full list of retrieved playlists, please refer to the accompanying data materials which have been submitted with this thesis. Refer to 'Noble_Data1_Retrieved Spotify Playlist Data'.

EVENT SPECIFIC	Label suggests that playlist contains music attributed to specific dated events (e.g., festivals, year-based events...).
CELEBRATION or SEASONAL	Label suggests that playlist contains music focused on calendar-based holidays or seasonal events.
SOUNDTRACKS	Label suggests that playlist contains music featured in film or literature.
CHARTED HITS	Label suggests that playlist contains music focused on material that has featured in the charts or ranking of some kind.
SPOTIFY SPECIFIC	Playlist contains 'Spotify' in the label.
GENRE-MOOD HYBRID	Hybrid labels combining GENRE and MOOD themes.
GENDER	Label suggests that playlist contains music focused on gender-based traits.
GENRE-ERA HYBRID	Hybrid labels combining GENRE and ERA themes.
SOCIAL or RELIGIOUS MOVEMENT	Label suggests that playlist contains music focused on social or religious material.
GENRE-EVENT HYBRID	Hybrid labels combining GENRE and EVENT themes.
INSTRUMENT or MEDIUM	Label suggests that playlist contains music played by specific instruments and/or devices.
HASHTAGS	Playlists with hashtags (#) as labels.
MISCELLANEOUS	Remaining playlists which do not fall into any of the categories.

4.9.3 Notable Categories

Within the twenty finalised categories, there are three genre-based types which include 'hybrid' in their name. These categories are to be considered as separate from their 'root' categories, as they are a combination of one or more categories (e.g., the GENRE-EVENT category features playlists that are a combination of the GENRE and EVENT categories). Notably, these three hybrid categories all feature GENRE, showcasing the amorphous flexibility of genre as a concept. There is also a MISCELLANEOUS category to account for specific playlists which do not fall into any of the categories mentioned above in Table 8. The following

section on will break down the findings from this API playlist retrieval experiment in order to gain insight into the trends around playlist presentation and popularity. Additionally, the findings from this experiment aids my research aim of exploring the operationalisation and promotion of music on Spotify.

4.10 Retrieved Playlist Preliminary Findings:

Following the API retrieval and sifting process, the frequencies of playlists were counted and ranked in order to view what categories were most popular for playlist creation and promotion.³²

As illustrated in the chart below (Figure 26), two categories led by a significant margin of over 130 playlists. PERSON SPECIFIC contained 266 (19%) of the total retrieved playlists and MUSIC GENRE contained 240 (17%) of the total retrieved playlists.

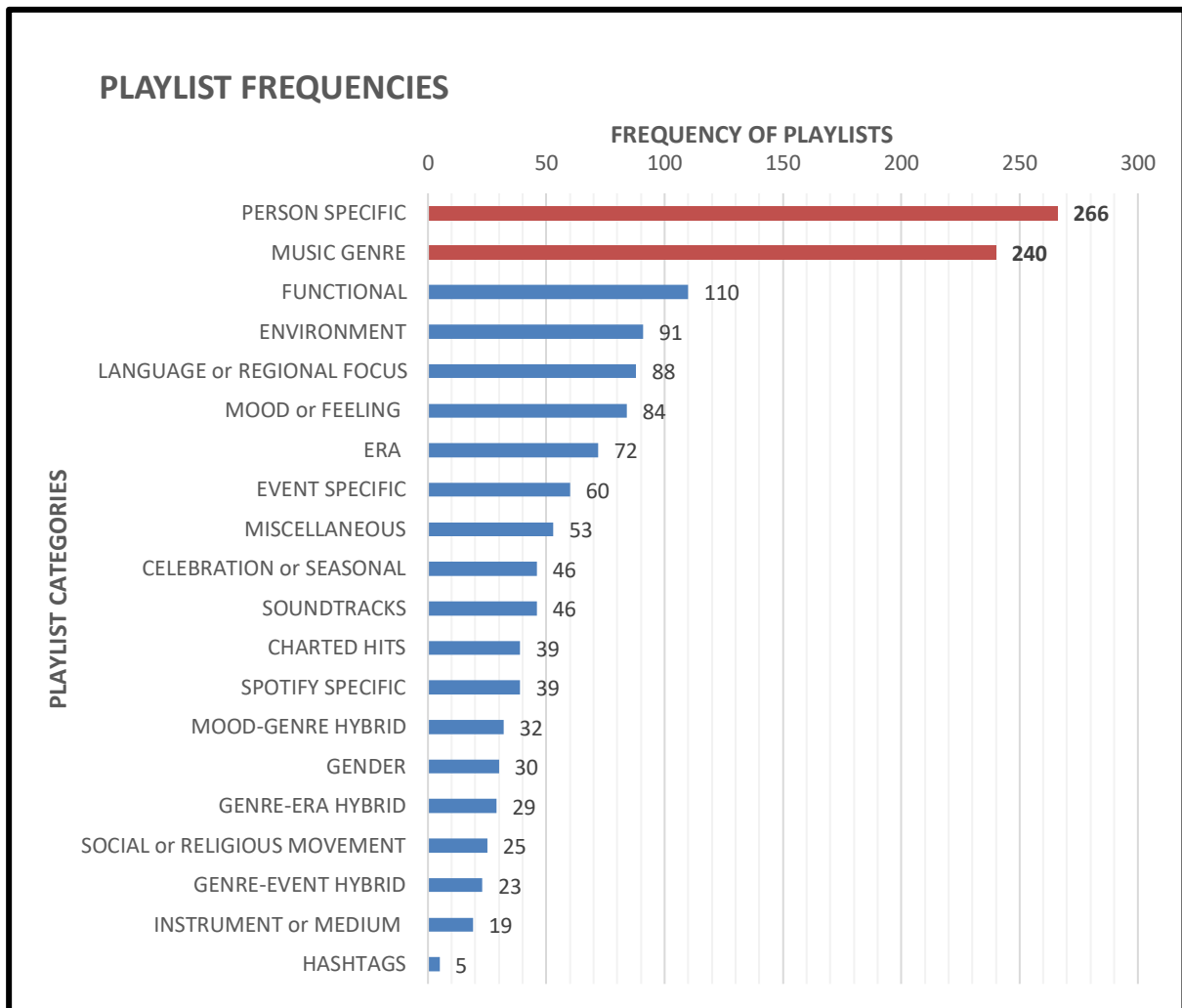


Figure 26: A chart showing the playlist frequency distribution results from the API retrieval (carried out in June 2021).

³² As mentioned, these playlists were retrieved in June 2021 and the results spoken about in this chapter reflect only this specific retrieval. Some of these playlists may no longer be available on the Spotify platform as of 2023. For future comparisons or work, the data for this retrieval will be available as separate, supplementary material to this study.

The remainder of this section briefly breaks down the contents of the six leading categories (PERSON SPECIFIC, GENRE, FUNCTIONAL, ENVIRONMENT, LANGUAGE or REGIONAL FOCUS, and MOOD), providing analysis and commentary in relation to previous findings. To view the spreadsheet of sifted playlists included in this experiment, please refer to the data materials submitted with this thesis.

4.10.1 PERSON SPECIFIC

The leading category in this experiment was PERSON SPECIFIC, implying that Spotify favours the creation of playlists which are dedicated to, or made in collaboration with artist(s), person(s), or band(s). It was immediately noted that many of the playlists regarding artists were grouped into different collections of playlist series. For example, there was significant indication that playlists which are wholly dedicated to individual artists and their own musical material have an elevated place of popularity on Spotify, with 183 out of the 265 PERSON SPECIFIC playlists being belonging to the Algotorial “This Is” playlist series. In this specific playlist series, Spotify algorithmically curates a collection of the best performing tracks from an artist of focus for fans and users to interact with. In order for this playlist to be generated, the artist(s) must have at least 50 tracks uploaded to their Spotify page (Spotify, 2023). The sheer number of playlists in this series within this category shows that this is a successful series, with Spotify diversifying the artists of focus in order to reach as many different users as possible. Given that this is a sample portion of the number of “This is...” playlists, it can be confidently proposed that this is one of the most popular playlists series on the platform.

With regards to representation, the PERSON SPECIFIC playlist features a range of artists’ musical eras and genres, including collaborations that artists have been part of and live performances. It is also evident that these playlists have been created around artists in memorial, or in tandem with current events such as artist touring schedules.

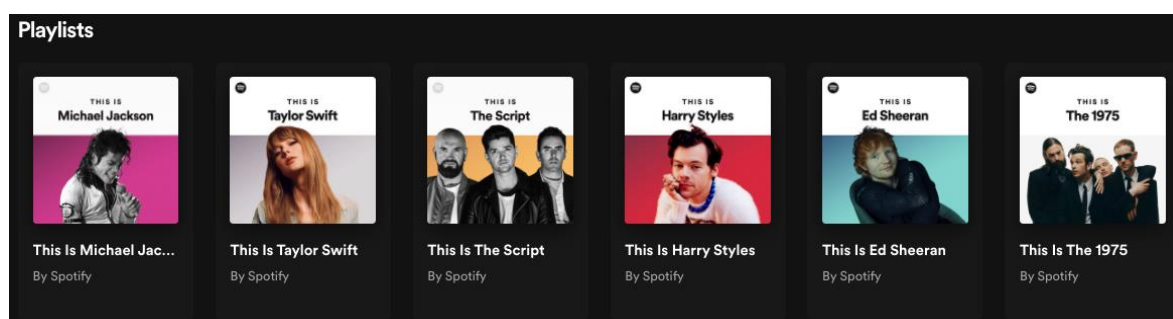


Figure 27: An example of playlists belonging to the "This is..." series on Spotify's desktop platform. ((Spotify, 2023). Retrieved September 2023).

Through the PERSON SPECIFIC category, Spotify diversifies its focus, displaying social awareness and knowledge of real-world artistic events, evidenced by the presence of birthday playlists such as “Happy Birthday Sir Tom!” (Spotify (h), 2023). This category also features playlists which nod to celebrity culture, an example of this being the “Welcome Baby Kimye!” playlist; made in celebration of the arrival of rapper Kanye West and celebrity Kim Kardashian’s new-born child (Spotify (i), 2023).

This collective evidence shows Spotify’s flexibility in categorising playlists around artists and people, due to the broad coverage that this method affords, allowing the platform to connect as widely as possible with millions of users on a global scale, through offering them favourable artists and persons of interest. However, the presence of playlists on Spotify which relate to everyday life, trending topics, and social awareness reinforces scholarly notion around the status of Spotify as an evolving platform whose goal is to be a user’s trusted personal listening companion (Johansson et al., 2017; Prey, 2015) This flexibility combined with the visual presence of these playlists outlines Spotify’s use of socially relevant promotional angles in order to cast as wide a listening net as possible – enticing users to explore these playlists further.

4.10.2 MUSIC GENRE

As shown in Figure 26, MUSIC GENRE is the second most popular category on the platform. However, unlike PERSON SPECIFIC, this category has no specific Algotorial series driving its popularity. With regards to the range of genres present, the portion of playlists retrieved feature a largely Western spread of music genres, with several being represented in quantity by multiple styles and sub-genre focused playlists. Examples of these are found in the rock genre which is represented by 27 playlists (including ‘soft rock’, ‘psychedelic rock’, ‘hard rock’, ‘country rock’...) and the blues genre which has 15 playlists (including ‘Chicago blues’, ‘blues rock’, ‘acoustic blues’, ‘Brit-blues’...). A plausible suggestion for this Western bias is the potential of a location-based filtering, on the API retrieval. However, this answer is challenged by the presence of a number of retrieved playlists in the LANGUAGE category being represented in non-western languages. Therefore, it could be posited that these playlists are simply the most popular genre-based Editorial playlist on the platform.

However, from what initially seems like a well-represented list, the same level of representation is not seen to be given to classical music in this retrieved playlist sample, indicating that Spotify as a platform, is pitched towards the style of popular music. In reflection of Adorno and Horkheimer’s 1944 theory of Culture Industry, is a predictable finding, given the popularity, flexibility, and commercial qualities of popular music genres (Adorno and Horkheimer, 2002).

When examining the labelling of these playlists, the MUSIC GENRE category features a mixture of recognisable playlists which are named directly after a genre or easily attributed to one, and also playlists which are titled purposefully to associate a collision of artists under one genre, using semantics that may be associated with the genre itself. For example, “Crash Course” playlist alludes to punk, hard rock, and many other genres in-between those musical spaces. This representation of labelling echoes the writings of Middleton (1990), Lena et al., (2008) and Holt (2007) who (in Chapter 2) convey the value of appealing to genre communities: including their alignment with specific semantics, visuals and actions in the name of music genre and identity.

From these findings, Spotify promotes a sizeable number of genre-based playlists for various reasons. This popular presence of music genre fulfils Spotify’s perceived role as a music platform, in accordance with the pre-established power that genre holds in traditional music marketing. This broad category will also aid the platform in reaching global audiences on a wider scale, in accordance with a number of factors and genre popularity. Given that this playlist sample is limited to 1397 playlists, it can be assumed that there is a vastly larger collection of music genres in existence on the Spotify platform (similar to that of the genre seed evidence found in section 4.8). Therefore, it can also be assumed that there are higher levels of genre diversity and representation on Spotify. However, due to a limit of access, this cannot be suitably proven within the scope of this research but could provide an excellent foundational topic for interesting future research.

4.10.2.1 Literary Reflections on the Position of Genre in Modern Streaming

Additionally, when examining MUSIC GENRE playlists in reflection of previous literature around the production, sustaining and trajectories of genres, the previous insights from Holt (2007) relating to genre conventions and potentials are linked even further. With this previous work in mind, it could be suggested that Spotify attempts to rectify the obstacle of intangibility within its service through the use of labelling and visuals in order to build a connection with genre-specific audiences and mentally embed fans into the environment in which they would associate their music being played. An example of this is the playlist “Doo-Wop Dee Doo” (representing the doo-wop genre) showcasing a visual cartoon thumbnail of a waitress in a stereotypical 1940s diner – an environment typical of the genre’s era (Spotify (j), 2023).

Spotify’s management, and promotion of genre through its playlists and visuals also provides a modernistic alignment with Middleton’s (1990) conceptualisation around genre coding and their operational roles (as previously mentioned in Chapter 2). Spotify as a platform, aligns with this theory its numerous musical coding: relating to pitch, timbre, structure, and many more which do not have a musical origin. Therefore, it can be deduced that Spotify’s ideas around genre can

be concluded as the outcome of specific codified events (which are influenced by numerous factors of varying strength), creating a successful level of control and influence within genre playlists on a granular level.

This idea of control can be taken even further to interpret this project's findings and Spotify's presentational style through the concept of Frith's (1996, p.88) previously mentioned "genre worlds", in which these playlists can be considered as modern interpretations, except with less actors. Spotify's genre playlists are firstly built by human Editors and refined through the continual process of tracked interactions and interpretation between listeners and mediatory individuals (in this case Spotify staff) only. The key contrast to Frith's (1996) original theory is the absence of performer input from this modernised process. This results in the established genre playlist then being moulded further by Spotify Editors, who have more power within this modern interpretation, allowing Spotify to successfully curate and exploit this new "genre world" in the form of mass marketed playlists (Frith, 1996, p.88).

Although the theory of "genre worlds" partially aligns with the platformization of music, the practicality of Frith's (1996) theory in modern streaming is a separate issue, reflected in the sheer numerical difference in playlist frequency between the MUSIC GENRE category and its hybrid playlists categories. Numerically, GENRE-ERA, GENRE-EVENT, and GENRE-MOOD all feature less than 40 playlists (as shown in Figure 26). This is an interesting contrast to the popularity of MUSIC GENRE, signifying that Spotify's attempts to create "genre-worlds" on a more granular level is not as popular an approach.

4.10.3 FUNCTIONAL

As shown in Figure 26, the FUNCTIONAL category had the third highest frequency of playlists. Unlike the traditional category of MUSIC GENRE, this grouping included any playlist which was designed for a function, task, or activity. Therefore, unlike the two previously discussed categories, which can be linked habitually to music (through artists and the traditional categorising method of genre), the presence and popularity of the FUNCTIONAL playlist signifies an additional kind of listening audience, who utilise Spotify for an array of daily activities, featuring playlists like "Morning Coffee", "Office Offensive", and "One More Rep" (Spotify, 2023). Regarding the types of activities being promoted, the most commonly represented tasks covered by FUNCTIONAL playlists were the following:

- Exercise
- Studying
- Sleeping
- Gaming

- Showering
- Cooking
- Commuting

These examples showcase that individuals utilising these playlists are suggestibly an audience who are interested in using music as a background tool to empower and enrich their daily activities, for which Spotify is able to provide playlists that cover these activities, functions, or tasks. Many of these examples are considered to be common daily activities, and the positive and encouraging titling and bright, clean thumbnails used in the promotion of these tracks promote enrichment of the user's activity or choice (e.g., "Beat Down Your Morning", "Perfect Concentration", "Songs to Sing in the Shower", and "Have a Great Day!").

These findings emphasise that Spotify is engineering a service which not only fits into the facets of everyday life but promotes that the use of its playlists will actively make life better. However, within this FUNCTIONAL category, there are playlists which have been designed to cover the truly personal depth of physical and emotional experiences: including experiences such as menstruation ("The PMS Playlist"), pregnancy ("Keep on Pushing: A Labour Playlist"), stress relief, and even dealing with grief ("Coping with Loss").³³ These experiences are often considered as private and delicate moments of the human experience, and further reinforces the impression of Spotify as a platform designing playlists in order to try and appeal to every given human experience.

The popularity of FUNCTIONAL is also encouraged through the vast number of activities in existence that the Spotify can pair with playlists. Given the millions of online users, and constant flux in new lifestyle trends, there will always be more content. An example of this is the 2022 trend which labelled the act of women going for leisurely walks to boost their mental health, as the "hot girl walk" (Pullar, 2022). As a result, Spotify, showing its (previously mentioned) awareness of trends and online culture, now features a playlist with the exact same label, featuring 50 songs pitched towards female empowerment, a visual thumbnail of a woman walking, and a short description stating "leggings, walking pads, water tumblers – that's hot" as shown in Figure 28.

³³ 2023 Spotify playlists on these topics are more neutrally worded (e.g., the "Calm Labour and Delivery" playlist retrieved from Spotify in September 2023).

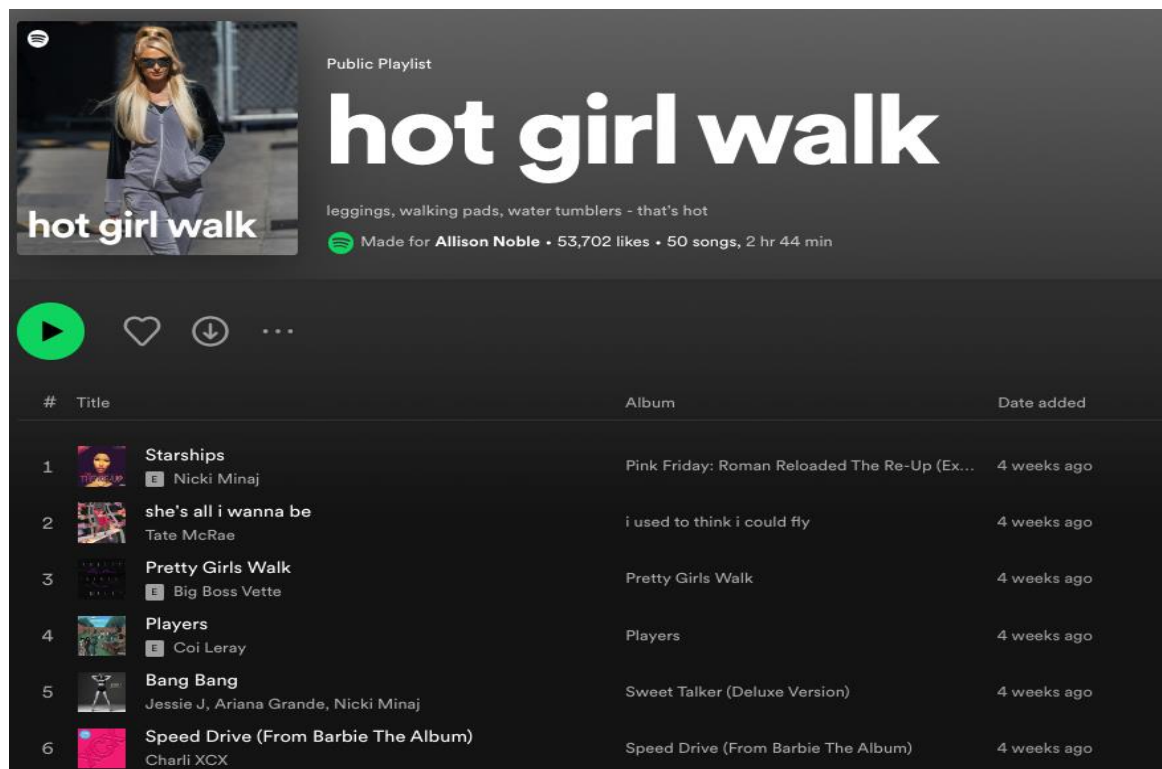


Figure 28: Screenshot of the Spotify playlist titled "hot girl walk" (retrieved from Spotify September 2023)

It is evident that music uploaded to Spotify can be made to fit into a variety of moulds created by the labelling of these platform playlists. Due to the fluid labelling that fluctuates due to trends, events and eras, the journey of a musical track on Spotify can be just as changeable (Eriksson et al., 2019). Instead of the static lifecycle of living within the album or single that it was created for, a musical track can be added and removed from seemingly limitless playlists on the platform, all in the name of categorisation. In this FUNCTIONAL category, it is clear that Spotify are the sole gatekeepers in their ability to identify and design playlists for activities. From a theoretical perspective, this gives the platform deterministic authority at the intersection of music and lifestyle, influencing users to select from pre-made playlists, rather than explore their own subjective ideas of what music should be paired with certain activities.

4.10.4 ENVIRONMENT, LANGUAGE or REGIONAL FOCUS, and MOOD

Following these three categories which lead by significant margins, are the categories of ENVIRONMENT, LANGUAGE or REGIONAL FOCUS and MOOD, where numerical margins between the categories considerably shrink (as shown in Figure 26). When examining all three categories in tandem, this shows Spotify's manufactured variety, and how they target user experiences at three different levels:

- The high-level perspective of the LANGUAGE/REGIONAL FOCUS category: where the playlists refer to a specific country, county, or are depicted in a non-English language.
- The individual perspective of the ENVIRONMENT category: where the playlists refer to day-to-day environments, sceneries, and experiences from the human perspective.
- The emotional level of the MOOD category: where the playlists relate to the range of positive and negative emotions and personal states that can be experienced by a human.

These categories show further evidence of Spotify attempting to capture as many areas of the human experience as commercially as possible. The presence of these playlists, alongside the popularity of PERSON-SPECIFIC and MUSIC GENRE portrays Spotify as a microcosm, where every cultural, musical, and personal experience is accounted for.

4.10.5 Playlists as the New Genre

From the presentation of these findings, there is clear evidence of the intentionality behind the variety of these playlists, their flexibility, and their vast coverage of both musical and non-musical uses. It is also evident that Spotify has utilised playlists as the encasement and delivery mechanism for all of their audio aims. These findings align with previous insights from Siles et al. (2019, p.1) where they describe playlists as the new genres, working as “fusions of musical substance, socio-technological assemblages, and socio-material practices”. Playlists becoming the new genre for Spotify provides the platform with unwavering flexibility in what ideas can be encased and delivered to users, as shown from these findings in the assortment of concepts and collections which have been fostered on the platform.

However, as found within the discourse in Chapter 2, classifications in genre shall always face a level of subjectivity due to social influence, procedure and the experiences of those who are capturing genres with technological methods (Whitman, 2005). From the findings of this thesis, this can also be extended to the influence of tangibility. Spotify’s interface, and its use of genre seeds has shown that Spotify’s algorithms and employees drive the identity and conceptualisation of genre on the platform, inviting users to explore these concepts through collections of curated tracks. Spotify’s use of intangible playlists as the encasement method has also morphed the concept of genre into a visual placeholder within the dissemination, search, and discovery of music, providing many (visual, contextual, and text-based) data points in addition to the label of the genre itself. The findings within this chapter show that there is power within this method of labelling, with Spotify maintaining curative control on mainstream playlists in order to reinforce its new role as the trusted gatekeeper of musical recommendation and personalised listening (as mentioned in section 4.4).

4.11 Chapter Summary

This chapter has explored the many facets of Spotify's operationalisation and treatment of music through a number of approaches. In carrying out my research, I examined both the Spotify interface and a large sample of playlists in order to understand how music was promoted on the platform, and I also retrieved several pieces of key data categories from the back end (using an API) to better comprehend the methods Spotify uses to computationally manage and measure music. With regards to my original research queries surrounding the operationalisation and promotion of music on Spotify, it is evident that a number of factors and aims are at play in a simultaneous fashion, allowing the platform to create a functionally streamlined service. However, from these findings, it is clear that Spotify's focus is on creating and capturing experiences, rather than just acting as a musical catalogue.

In examining how music is represented on Spotify, there are several front-end components which the user can experience knowingly, including the labelling of playlists with the use of vivid verbs and adjectives to create the impression of specific environments. Users also witness the accompanying visuals of playlist thumbnails which boast vibrant imagery to further create the illusion of an immersive, ultra-personal environment for listening. In contrast, behind the interface, in the back end that users cannot see (without undertaking efforts such as those executed in this study), Spotify uses genre tags, and numerical metrics which cover both musical and non-musical content to further break down tracks into binary components. This enables the platform's algorithms to generate playlist content and recommendations which draw users into this microcosm environment of themed audio.

In theoretical reflection of these findings, there is evidence which portrays Spotify as both a technologically deterministic and socially constructed technology. The deterministic aspect of the platform is found in the playlist labelling and promotion techniques; the sheer quantity of pre-made playlists which have been created to embody every human experience in order to capture and maintain user interactions, and the hidden algorithmic use of genre tagging whose operation and representation is hidden from the front-end user interface. The aforementioned black boxing element of Spotify also reinforces ideas of a deterministic service, as users must place trust in the presentation, and interactions with the service that they are using. Lastly, this perspective is strengthened by the sheer scale on which Spotify operates. However, with regard to playlist sustainability, arguments can be made for the socially constructed nature of these platforms in the requirement of these playlists needing user interaction to remain on the platform. As mentioned in previous work in Chapter 2, Spotify relies on its users to interact with the platform and playlists that they create in order to drive audience interaction and return, signifying that some power is held partially by the users in this aspect (Eriksson et al., 2019).

However, both of these theories come into question over my findings indicating that Spotify attempts to create an intangible, digital microcosm of playlists which encompasses all facets of the human experience. Does the idea of technological determinism extend this far, or does it depend on the user's awareness of the platform's techniques? Does social constructionism cover these concepts through the impact of trends, events, and culture on the creation of playlists and advertising? Or does this coverage fall short due to too little evidence on the true impact of society's voice on this platform combined with the previously discussed controversies in Chapter 2?

Based on the findings and discussions held within this section, these ideas of impact and theoretical coverage make ideal foundations for future research into these areas, given the early age of music streaming platforms and the unknown true scale of their technological impact. The previously highlighted idea of genre trajectories and lifecycle within Spotify – where the platform functions as interactive, promotional musical archive – would also benefit from exploration in further detail.

Chapter 5 Exploring Interviewees' Spotify Music Experiences

As shown from the previous findings presented in Chapter 4, Spotify encourages user interactions through the experience of a streamlined interface that offers seemingly limitless musical abundance and powerful personalisation features. However, in order to fully address my research aims, I utilised the first-hand experiences of Spotify users to explore how Spotify users navigate the platform to facilitate their music listening and the impact of this usage. In addition to the data points used in the previous chapter, Spotify's continuing year-on-year growth in platform subscribers, has resulted in the creation of a rich source of applicable data for qualitative research. In Chapter 3, I introduced the twenty-three interview participants who form the qualitative evidence base for this mixed-method study. As previously mentioned in section 3.3, the interview format was of a semi-structured nature, thus allowing for relevant deviations and to accommodate different backgrounds of participant thinking and reflections.

In the early stages of this chapter (sections 5.1 – 5.2), I briefly explore the collective themes behind why interviewees chose Spotify as the platform for their listening, and examine their given incentives behind their choice of Premium subscription or free account. These assigned monetary subscription values have often been referenced in discussions around artist remuneration issues during enquires into Spotify and other platforms, but little has been mentioned around the motivations of users who continuously use the platform.

In the latter sections of this chapter (sections 5.3 – 5.5), I discuss the participants use of streaming platforms in their everyday lives: including their active streaming environments, how they navigate the platform for search and discovery, and the ways in which they treat the music they interact with through the topics of user attitudes to music categorisation, playlist use and creation, and their sharing of music with others. Within these sections, I highlight use of relevant additional objects, entities and actions which are utilised by interviewees to enhance and streamline their Spotify experiences.

Throughout this process, I compare these answers to previously featured literature and concepts raised in Chapter 2: surrounding music streaming, curation and other previously discussed scholarly topics. I also evaluate several of these notable actions and experiences through the previously used theoretical lenses, in order to draw conclusions in alignment with the foundational questions of my study.

5.1 Why Spotify?

In beginning this exploration of user behaviours, I firstly chose to question users as to what factors drew this collection of interviewees to specifically use Spotify.

5.1.1 Efficiency and Value for Money

In response to this, a number of themes arose, including topics of popularity and convenience, with an overarching level of praise being given towards the simplicity of Spotify. In addition, users also appreciated the platform's relatively cheap cost, large music catalogue, and interoperability.

Other users were more straightforward regarding the advantageous payoff of using Spotify, stating that they enjoyed paying a small fee for what seems like an unlimited resource. This answer showcases an underlying awareness of the clear economic advantages that users receive from paying a small monthly fee or choosing to utilise the free ad-supported service – twenty-four-hour access to millions of tracks (Iqbal, 2023). In reflection of previous physical methods of music mediums, where users would have to pay on a per-item basis, this era of intangible streaming allows for users to save quantities of money and physical storage.

5.1.2 Word of Mouth

Alongside these answers of operational ease and access, a popular reason for user sign-up was through word-of-mouth and the influence from different social circles. For example, User #6 (a fitness influencer) was swayed to immediately purchase Spotify Premium from watching the YouTube video of a popular fitness vlogger who showcased their enjoyment of Spotify:

“I watched a YouTube video, and it was a fitness vlogger who put it in his video. This was when Spotify had just kind of started. He was like, “all I use is this Spotify app, I downloaded it and paid for the Premium version, it is the best thing I've ever bought!”. After I watched that video, I just got Spotify.” – User #6

Whereas User #6 felt swayed by the fitness YouTuber who influenced them, other participants reported that the popularity of Spotify within their social circles made them create an account for the platform out of what they felt was a necessity. User #8 stated that they originally made an account as it was the platform which their friends all used, therefore, it “just made more sense... because it would reach more people and it'd probably be easier to share” (User #2). User #2, who identifies as an active musician, also saw their adoption of Spotify as both a social and creative business move:

“I've never quite liked their UI [user interface] and how it works... However, most of the stuff people send you is through a Spotify link, so I've got an account just so I can easily listen to stuff, if people send stuff through. But that's about it”. – User #2

5.1.3 Personalisation

Notably, only one user cited Spotify's personalisation service as the drawing force to use the service. User #22, said that they chose the platform due to their previous enjoyment of other musical recommendations services like Last FM. Furthermore, they were encouraged to use Spotify due to the greater levels of flexibility afforded to listeners who have specific desires for their listening experiences. However, this lack of citation from other interviewees suggests that Spotify's personalisation is not as popular with this specific group of users and their preferences are found within the specific operational features of Spotify, of which they have more control.

These findings confirm that the various factors driving platform uptake are not only dependent on the user's tastes, potential musical career, and lifestyle factors, but it is also suggestible that a user is likely to be encouraged to join Spotify if their social circle is utilising the same technology for the purpose of music sharing. It is also evident that some users are aware of the true economic value that they receive as users of Spotify, given the scale of what they can access in comparison to what they actually contribute on a monthly basis through their subscription choices.

5.2 Participant Subscription of Choice: A Question of Value(s)

5.2.1 Subscription Options

As previously mentioned, Spotify offers a listening experience which is dependent upon the choice of account: users can have either a free Spotify account or purchase a Spotify Premium subscription. Users who listen through a free account are exposed to a more rigid experience of the platform. However, Spotify uses a variety of benefits to encourage users to choose Premium. The complete list of benefits for a Premium user includes:

- Listening to music free of advertisements
- The ability to download music for offline listening.
- The ability to turn off shuffle.
- Being able to listen with a high quality of audio.
- Being able to share and listen with friends in real time.

- Access to personalised playlists and recommendations
- The ability to move and reorganise music in the play queue (Spotify Support (a), 2023).

From this list of benefits, that the difference in platform experience between a Premium and free user is actively manufactured and altered by Spotify in the accessibility, audibility and streamlining of the platform. In order to access these benefits, users must purchase a monthly Spotify Premium subscription, with the flexibility of several subscription options:

- The ‘Student’ subscription costs £5.99 per month.
- The ‘Individual’ subscription costs £10.99 per month.
- The ‘Duo’ subscription costs £14.99 per month and offers two Premium accounts.³⁴
- The ‘Family’ subscription costs £17.99 per month and provides six Premium accounts (Spotify Support (b), 2023).³⁵

These plans show that Spotify is capitalising on a successfully proven business model, encompassing the act of providing its paying users with the same benefits listed in Wang et al.’s (2005) aforementioned work in Chapter 2 (convenience, essentiality, added value, higher quality of service, and usage frequency). However, these prices combined with the contrasting listening experiences between paying and non-paying users relates to previous scholastic ideas of Spotify’s ability to create a musical gatekeeping effect and raises questions around the concepts of musical ownership versus musical renting (Eriksson et al., 2019; Vonderau, 2019). This also raises questions around user needs and what they find important when listening to music and utilising streaming platforms.

5.2.1.1 Findings: Number of Free Accounts Versus Spotify Premium Subscriptions

During their recruitment phase, interviewees were asked to state in their consent forms (shown in Appendix C) whether they paid for a Spotify Premium subscription, or if they used a free account. From examining all twenty-three responses, it can be seen in Figure 29 below that a large majority of interviewees are Premium users (74%) who choose to pay a monthly fee in order to access all features of Spotify. This sample is skewed highly with regard to representing the population: as only 46% of Spotify’s 345 million monthly active users pay for a Premium subscription (Eser, 2024).

³⁴ ‘Duo’ refers to two individuals living within the same household (Spotify, 2023).

³⁵ Subscription price plans retrieved from <https://www.spotify.com/uk/premium/> on 22nd September 2023. Excluding ‘Student’, Spotify have raised the price of each of their subscription plans by £1 since April 2023.

Regarding the of Premium plan types, the majority of the mixture were ‘Individual’ and ‘Student’ plans, with only one user being part of a ‘Family’ plan, and no ‘Duo’ plan members. Additionally, around 4% of users had access to both paid subscriptions and free accounts due to their job in the creative industries. Through the lens of SCOT theory, this signifies the dual identities that Spotify maintains, holding roles as both a useful tool for work and a valuable recreational platform depending upon the user needs.

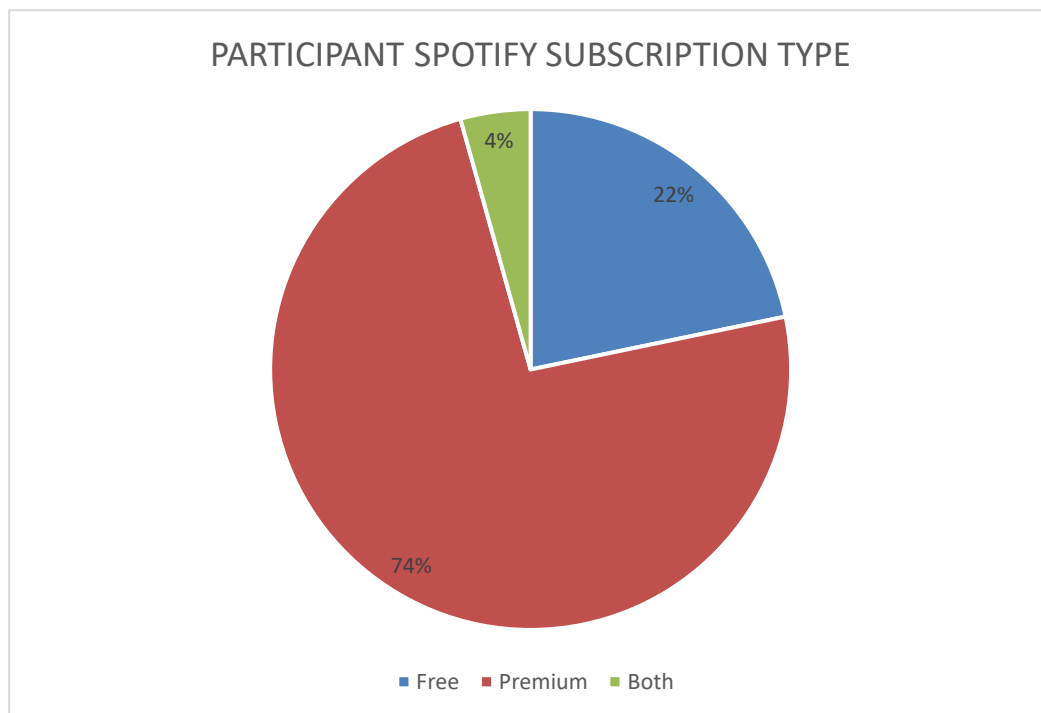


Figure 29: A chart displaying the breakdown of interview participants by Spotify subscription type.

This majority of paying subscribers within this participant pool signifies the popularity and economic value of music subscriptions. However, from this, it is clear that further examination surrounding the benefits of Spotify is needed in order to understand what specific factors are driving users to pay and stay with Spotify.

The remainder of this section examines the rationale of both paying and non-paying users in further detail and presents discussion around how subscription choices and justifications reflect the interviewees’ personal, economic, and practical values around music.

5.2.2 Premium Subscription Motives

When asked about their motivations for choosing a Premium Spotify plan, the users gave a variety of justifications, often citing more than one specific reason for their subscription choice. These reasonings were counted and grouped together for examination, as shown in Table 9:

Table 9: A table displaying the range of answers from interviewees who have a Premium Spotify subscription and the number of interviewees who used the answer.

Reason	# of Interviewees
Pay to avoid adverts.	11
Want full access to all platform features.	7
The Spotify service is part of a phone bundle or is discounted.	6
The subscription is part of a family plan.	2
Prefer the level of control over their listening.	2
Feel like they're supporting artists	2
Feel like they're contributing to artists by paying for the service	1

From the seven themes shown above, it evident that the previously listed benefits of Premium plans hold a high importance to this group of participants, in how they provide users more control over the features offered. This table of results also signifies that users are happy to exchange payment for further operational value and perceived service advantages, which relates directly to the previous hypothesis offered by Wang et al. (2005) in Chapter 2.

As also shown by Table 9, three themes took prominent place including relating to adverts, access, and package bundling.

5.2.2.1 The Avoidance of Adverts

According to Table 9, the leading reason to pay for a Premium account was to avoid adverts, which users deemed to find irritating or jarring to their listening experience, going so far as to offer visceral responses such as "I hate adverts" (User #1), making it clear their beliefs that unbroken listening was the obvious preference:

"I use the Premium version because seriously, who wants to listen to ads?" – User #17

In contrast to these more expressive responses, User #4 gave a more musically driven explanation for their preference of Premium, citing their love of the album format, and how shuffling (the only option available to non-paying users) ruins their experience:

"I can't handle the fact that the free version gives me ads and does this random shuffling of songs, it drives me crazy" – User #4

The presence of adverts is a common feature on the freemium versions of digital streaming platforms, with platforms like YouTube and Amazon Music placing frequent and immovable adverts in song line-ups (YouTube, 2023). By paying for Spotify Premium, these users are paying for the control to subvert this process and access their desired areas immediately. This choice promotes further control for the user: allowing users the fulfilment of unlimited access in abundance and reinforces the effects of instant gratification which is provided by many digital services in the 21st century (Panek, 2012).

These interviewee answers in combination with this idea of rented direct access relates to the aforementioned concept of the “post-fidelity” attitude, where the user has unparalleled accessibility in terms of ease, breadth, and speed and as a result, the quality of musical recordings (in this case, files) does not hold a priority (Katz, 2010, p.164). In contrast to Katz’s (ibid.) commentary, which centred primarily on digital download stores such as iTunes, operational processes of Spotify’s business model enforce ideas of “post-fidelity” through the user’s willingness to pay recurrently on a monthly basis to access millions of tracks – more tracks than they could possibly ever listen to in a lifetime (ibid.).

From this answer holding the majority of votes, it can be concluded that this group of participants value practicality and accessibility in their music listening, due to their preference of having an uninterrupted listening experience on Spotify. Through the context of SCOT, it could be suggested that by paying for Premium, these users actively choose to grant Spotify the identity of an upgraded music catalogue, while stripping away its identity as a marketing tool, which it holds for free account users.

5.2.2.2 Full Access to all Platform Features.

In similar nature to the previous reasoning of advertisement-free listening, the second most popular justification centred around enhanced access and the user’s interpretation of value for money.

“I really like the idea that I can pay a fee and that gives me unlimited access to a resource.” – User #15

As mentioned, Premium access allows users to access all publicly available playlists alongside unlimited manoeuvrability through the platform with freedom, whereas free listeners can only access a restricted level of the platform (Spotify Support (a), 2023). For more intensive Spotify users, this is an advantageous feature, as paying for more control over freedom of movement and greater access can provide the user with a more immersive listening experience and access across the entire Spotify catalogue. This is shown in the example of consistent engagement of

User #8, who can be graded as a more intensive user due to their methodical work in their own monthly playlist creations:

“...since 2015, I've made a monthly playlist and so the reason I have Premium is because I feel like I've invested so much... that I don't want to go back” – User #8

The flexibility and access needed for this archival practice would not be possible for a free account holder, further indicating to the existence of users who value the economical and practical benefits of a Premium subscription for their own personal experiences and gains of using Spotify.

5.2.2.3 Spotify Wasn't Intentionally Bought

Notably, the third most popular answer from the Premium user pool was that they had never actually intended to own Spotify. Instead, these users gained a Premium Spotify account as the result of a product purchase or benefit. Most commonly, these users received a student discount, or their Premium account was bundled alongside their phone/broadband/family subscription packages. This relates to previously mentioned discourse around the flexibility of streaming, where subscription models have merged into everyday life and entertainment (Johansson et al., 2017). Receiving discounted access as part of a bundle also reflects sentiments previously conveyed by the 2022 CMA report, stating that users receive a more advantageous position in the arrangement created and mediated by streaming platforms, including (but not limited to) discounted access and flat-rate access fees (Wikstrom, 2012; Wang et al., 2005; Eriksson et al., 2019; CMA, 2022).

5.2.2.3.1 Noteworthy Motivations: User #20 and User #3

When outlining their motivations for owning a music streaming subscription, only two users mentioned that they paid for the service because they enjoyed the idea of supporting artists.

“I know that in the wider scale, my contribution to it is fairly minimal, and that's why I would want to pay more to contribute more to artists... I would happily pay more so artists get more” – User #20

“As a consumer, I don't want to listen to adverts and I kind of like unlimited streaming. As someone who has been in that industry and is in that industry, I like supporting other artists. They're [Spotify] doing that”. – User #3

It is notable that these users are both associated with the music industry at differing levels: User #3 identifies as an active musician and User #20 is an A&R manager. Although it could be argued that those like User #20 hold a professional interest in the longevity of artists, their open desire

to freely pay more to support artists suggests evidence of a high association of personal value with music, and musicians. It is also notable that no other individuals who identified as an artist or associated with the creative industries held this viewpoint, suggesting that the approach to music streaming is not a unified one across creatives. Additionally, this lack of outspoken support from other Premium subscribers suggests a lack of awareness surrounding the issues artists face around remuneration on Spotify and other music streaming platforms, like those depicted in both the DCMS and CMA reports (previously mentioned in Chapter 2).³⁶

In summary of these brief findings, by paying a monthly fee to access Spotify Premium, users receive an advantageous combination of rewards including advertisement-free listening, wider platform access, and more control over their listening experience. By meeting these practical, economical, and personal needs, Spotify is judged as worthy of financial commitment.

5.2.3 Free Subscription Motives

When questioned about their choice to use the advertisement-enabled, free version of the Spotify service, it was found that all six users gave answers which were grounded in specifically economic reasonings, with more than one answer often being cited. However, as shown in Table 10, the answers given were spread more evenly between the six users (unlike the clear majorities reflected in Table 9 from Premium users).

Table 10: Table showing the range of answers by interviewees who have a free Spotify account.

Reason	# of Interviewees
Uses the free version for work-related purposes.	2
Wasn't using Spotify enough (but may repurchase Premium one day)	2
Uses an ad blocker to block out free account adverts.	1
Uses free platforms, such as YouTube for the majority of streaming.	1
Already has subscriptions to other music platforms.	1
Currently saving money and doesn't value Spotify enough.	1
Don't use enough Spotify features to consider paying full price.	1

³⁶ Questions and considerations regarding user awareness around the issues faced by artists who utilise the platform are further explored in Chapter 6.

Reason	# of Interviewees
Already owns a lot of the music on other media – no need to buy.	1

From the economical themes shown, these users do not view the benefits of a Premium account as valuable for their musical listening experiences. An absence of personal or practical reasonings in Table 10 indicates that these users value Spotify less than those who are willing to pay for further interaction with content. While this collection of answers provides a high-level insight into the issues faced by Spotify in their mission to reach users, two notable themes stood out as to why these users were hesitant to pay for Spotify's benefits.

5.2.3.1 Spotify is Used Just for Work Purposes

A notable motivation was that users were using the platform for professional purposes only. One example is User #20's active creation of separate digital spaces: using a free account on Spotify to conduct their professional work as an A&R manager, and therefore restricting the algorithm from altering their personal account and listening experience. The existence of this dynamic highlights the importance of user autonomy. This also underlines #User 20's appreciation of music as an entity which they interact with on both a personal and professional level. This is shown not only through their need to maintain control and separation over their listening spaces, but in the method of which they utilise Spotify – a free account for work and a Premium membership for their own musical experience – showing their desire to both expand and protect their own listening experience. However, this experience is reversed in the example of User #2, an active musician, who instead holds a free account with Spotify out of mandatory promotional needs. With regard to their personal listening, this user owns a subscription with Spotify's competitor Apple Music, as it was more suitable for their needs. However, User #2 felt that they had to have some sort of access and link to Spotify, as it was the go-to for sharing links to musical content via social network platforms:

“... I personally don't like the Spotify user interface and how it works... most of the stuff people send you is through Spotify links, so I've got an account just so I can easily listen to stuff if people send stuff through, but that's about it...” – User 2.

This creates a caricature of an unwelcome relationship: User #2's declaring of their dislike of Spotify's interface, coupled with the necessity of holding an account highlights the powerful position that Spotify holds within the ecosystem of the music industry, where they have become a mandatory part of the process. This situation also gives fleeting insight into the requirements

of the 21st century musician, where artists – and others in creative spaces and online work – need to maintain a flexible presence and knowledge of all platforms and promotional options.

5.2.3.2 Lack of Use

Another justification from free account holders was presented as more retrospective, as the users in question stated that they had originally chosen the free subscription in order to save money due to their lack of Spotify use. However, these users then declared their plans to potentially repurchase the Premium subscription due to an uptake in more regular streaming. This changing of attitude resulting in a potential Premium subscription purchase showcases the presence of an attitude of flexibility that these users feel towards Spotify, and toward their own control over their music listening.

5.2.3.2.1 Noteworthy: User #23 - Ownership over Subscription

In addition to the economic reason of saving money, one user (#23) referred to their preference of listening to purchased physical and digital material which they already owned. When asked about their frequency of platform use, User #23 answered that they did use Spotify on a daily basis when working, meaning that they encountered the disruptive presence of advertisements during their listening experience on a daily basis. However, even with this disruption and input from Spotify, this user maintains their own listening autonomy through a grounded understanding of their own musical preferences:

“I know what I like, and even though every now and then, I'll discover something brand new, like, “oh, I didn't realise I like this”, I'm not usually in that frame of mind though. I will repeatedly listen to the same thing, hundreds of times... I don't care, I know what I like, I don't need them [Spotify] to tell me” – User #23

This signifies that this user's impression of value is not around a lack of actual use, but an actual deliberate measuring of cost-benefit analysis for what they get from a subscription. This also signifies User #23's approach to music and its importance: if this user values a piece of music, they will take the steps to permanently own this content instead of temporarily renting it on Spotify. The evidence of this user's approach relates to aforementioned arguments around the importance of music ownership and how music streaming platforms usurp this (Spilker, 2018). User #23's resistance to influence from Spotify, combined with their lack of issue with disrupted listening and their preference for owned material showcases a presence of active decision making in their listening experience: in the intentional purchasing and curation of their musical content, and how they reduce Spotify's role to that of a testing platform.

5.2.4 Participant Subscription of Choice: Summary

The interviewee answers provided thus far not only fortify the previous suggestions provided by Zhang (2023) – who proposed that Spotify’s strong user base is benefitted by amalgamation of factors – but also clarify that motivations in choosing to use Spotify are influenced primarily by the user’s appetite for platform control and the specific economic, personal, and practical values that they expect or desire to gain from the addition of Spotify in their life. While paying users appreciated the larger levels of control in access, curation and manoeuvrability, free account users who didn’t engage as frequently prioritised what they perceived as value for money. These contrasting attitudes to Spotify as a platform not only showcase a clear difference in tolerance amongst certain users with regard to disrupted listening, but also makes clear the broad differences around values and expectations between users when it comes to music listening. However, the presence of changing attitudes towards plan types also signifies an attitude of flexibility towards Spotify. Yet, in other user circumstances, this representation is reversed where users feel the need to have an account for professional purposes, even if they do not particularly like the platform.

These arising themes of access and control are reflected in the research mentioned in Chapter 2, where Spotify’s growing reach is discussed. However, the number of Premium paying users in contrast to those who prefer the free service evidently reinforces the previous prediction by Hracs and Webster (2020), whose work discussed the tempting platformization aspects of musical abundance, and how these engineered environments foster user experiences, compelling them to stay. Therefore, from the findings of these reasons regarding both intentional and unintentional user ownership the Premium subscription, it could be suggested that these users feel elevated in their connection to the platform and their identities as audio enthusiasts. Through the lens of SCOT, those users who are actively willing to pay for uninterrupted music listening demonstrate a higher investment and valuing of music, as they unlock more of the platform’s catalogue and features through subscription, creating a more autonomous listening experience which they can shape. However, this argument can be countered by the examples of collectors such as User #23, who makes a point of specifically purchasing and owning the music that they value, while assigning Spotify the role of a testing space for potential new music.

5.3 Spotify And the Everyday Life: Exploring User Navigation

My introductory exploration into reasonings behind subscription choice provided insight into how financial estimations can influence a user’s value of music. Following this line of questioning around account choice, I segued into questioning users around how they actually

engage with Spotify and experience music, in order to investigate the ways in which Spotify fits into the lives of these participants and what acts they specifically partake in while engaging with the service. In trying to understand how users' opinions and values of streaming platforms are influenced, I explored the specific streaming habits of my interviewees, with this section detailing the interviewee responses to questions surrounding their general platform use.

These answers pertain to users' streaming environments, frequency of streaming, use of search and discovery features, and use of categorisation methods. I also explore how interviewees undertake small acts of what can I describe as 'platform-hacking' for their convenience. As a result, these presented findings contribute deeper qualitative understanding in how interviewees utilise Spotify for their streaming experience and in the drawing of analysis around how this could impact a user's connection to music.

5.3.1 Frequency of platform use

When questioned around how frequently they use the Spotify, 78% of users said that they utilised the platform on a daily basis, with many users even providing hourly estimates of how much time they spent streaming, which ranged from thirty minutes to eight hours. This group of users provides a clear example of the routine ways that users integrate Spotify into their daily lives. In addition, those users who did not utilise Spotify on a daily basis, gave weekly estimates instead, but only one user specified that they only utilise Spotify intermittently throughout the month. What evidently influenced many of these streaming frequencies was the presence of a task or environment in which a user found it appropriate to utilise streaming.³⁷

Although they were not prompted by the question, some users made a point of pairing their time usage on Spotify with specific action-based-justifications, with the majority of reasons focusing on the acts of commuting, daily chores, exercising, and working with music streaming in the background, further solidifying the role of Spotify as a background tool in the everyday life:

“...At least daily... I normally listen to music in the car on my way in to work, I listen to it while I'm doing work that doesn't involve me talking to anyone. I also use it on the way home, and then probably in the evening as well, in my shower... so basically all the time.” – User #18

³⁷ Hagen (2016, p. 187) has previously described users who utilise streaming on an almost daily basis as music “heavy users”, however, these intensive usage times provided by my interviewees offer the opportunity of future research into the different types of user classification within the music streaming ecosystem.

“...It's safe to say that I spend an absolute bare minimum of an hour and a half on the road every single day... so my streaming usage is a big part of my staying sane.” – User #12

“...I use it when I cook, clean, or if I'm just relaxing, I would put it at between 1 – 2 hours.” – User #21

These justifications are varied and provide evidence for the argument that streaming platforms have diluted the concept of music, causing it to be fused into the everyday life to act as an additional enrichment to specific fundamental and non-fundamental activities performed by the user. However, it could also be argued that the twenty-four-hour availability of these intangible music files has consequently catapulted a digitally intangible version of music into even further importance (Rambarran, 2021). In further reflection, it could be suggested that the technological shaping of music into an enriching additional factor of the everyday life is not directly facilitated by the music itself but through the existence of smartphones and other portable compatible devices. As previously mentioned in Chapter 4, those who subscribe to Spotify must access the platform through an application on a compatible device. Therefore, while the topic of tangibility holds importance in academic discourse, these interviewees' answers confirms that they find value in the intangible, simplistic, and consistently portable state of music within their varied environments, allowing music to become a fluid, accessible essential in the lives of many through the use of tangible mobile devices.

5.3.2 Streaming Environments

Following this discussion of time usage, interviewees were questioned about the typical environments in which they would choose to listen to Spotify: including how often they streamed and what scenarios they habitually paired Spotify with in the everyday. This questioning included deeper discussions into the specific activities they were undertaking when streaming and what this possibility meant regarding their desired requirements around music listening.

Of the twenty-three users interviewed, 87% of users said that they streamed their music from Spotify in the background while they were focused on other tasks in their day-to-day lives.

“Driving, running, when I'm working out, as well as when I'm cooking... I don't have very much silence in my life...” – User #12

Answers like those given by User #12 actively demonstrate the flexibility of Spotify usage that a user can have and makes clear the malleable access that the platform is granted with, in regard

to users' subjective ideas of appropriate environments for the act of streaming. In response to asking all twenty-three users where they streamed Spotify, the following answers were given:

- Working at home and/or in the office
- Using public transport/commuting
- Driving
- Exercising
- Socialising with friends and family
- Shopping
- Teaching
- Gaming
- Showering or bathing
- Cooking
- Studying

Notably, all interviewees gave at least two types of tasks or scenarios that they consciously paired with Spotify. This overlapping of answers by all users solidifies that their relationship to Spotify is extremely versatile and reflects the spreading of cloud-based music streaming practices into the everyday life of users. It can also be seen from the types of activities which have been listed, that there are varying levels of concentration required from the listed activities, consequently affecting the user's ability to present, or distracted from the streamed music, reinforcing the interviewees' previously mentioned desire for listening flexibility. However, this background playing is not a new phenomenon siloed to intangible listening, as evidenced by User #4's reflection on physical mediums before their switch to streaming:

"...the car we owned had a CD player in it, so I used to buy loads of CDs from charity shops. But since changing to a car that's only got Bluetooth connectivity, I can't remember the last time we listened to a CD. We've got a record player and a CD player, yet I still go for Spotify by just plugging straight into the amp rather than using either of them" – User #4

The range of tasks given by interviewees, coupled with their reflections on music medium evolution, highlights the range of user lifestyle choices and preferences which are captured in this study, and further reflects the interoperability of Spotify's design: being playable from internet-connected devices, and fulfilling user desires for flexibility and access.

However, in receiving at least two streaming-applicable activity answers from interviewees, I determine that there is future research required around the robustness of Spotify's role in facilitating music listening. Would music play such a frequent and varied part in these users'

lifestyles if it was not device-based? How truly connected to the music are these users? Do they value the service of Spotify and equally the music which it provides? Or do users find that Spotify has morphed their impression of music's value in its ability to distract from their daily tasks?³⁸

5.3.3 The Importance of Devices in Music Streaming

In my aims to understand how interviewees utilised Spotify within these given environments, attention was paid to the devices mentioned in answers during their interviews, resulting in finding that the fluidity of Spotify across devices was a key benefit, allowing users to utilise the platform from several devices of their choice. As previously mentioned in Chapter 4, users of Spotify are met with a streamlined, simplistic interface experience which changes fractionally depending upon the device used. Through the Spotify application, users are able to stream on mobile devices, laptops, and other third party, compatible gadgets such as Alexa, Google, Sonos, Bluetooth devices, and even gaming consoles (Spotify Support (a), 2023). As also discussed in Chapter 4, Spotify aims to keep users entertained with a number of mobile-based features including short video, pop-up messages, interactive hash tags, and music selections in order to enrich their listening environments.

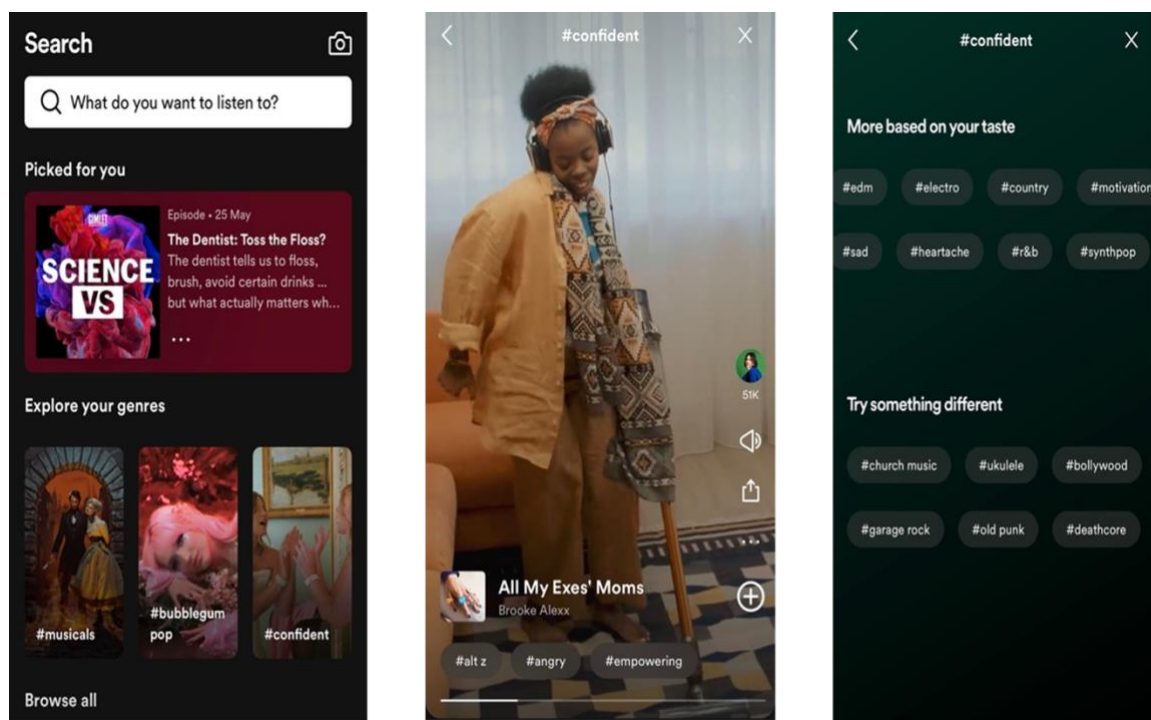


Figure 30: A selection of images showcasing various interfaces smartphone for users.

³⁸ Due to the scope of this study, these questions are more suitable for future academic studies in the music streaming landscape.

With regard to device popularity, smartphone use was identified as a key facilitator to interviewee streaming. I find this to be a predictable finding, due to the crucial status that smartphones hold for many as a tool for everyday use and survival (Rambarran, 2021). This is supported by reports such as the 2022 survey from YouGov which showed that 71% of surveyed participants subscribed to music streaming platforms such as Spotify via their smartphones (YouGov, 2022). The Spotify application is not a default on most devices, users must intentionally download the free application and then choose to have a free account or a Spotify plan. This popularity of device ties in with the previously discussed demographic breakdown in Chapter 3, where it was found that users are often encouraged through other incentives to download and use Spotify. From these interviews, a number of users clarified that they were introduced to Spotify as an add-on from a smart device purchase, or as an employment benefit. User #12 recounts that they were originally hesitant to use Spotify, but they were eventually incentivised through work:

“I remember working for a loyalty marketing company and my manager said to me “So do you stream? What do you think of streaming platforms, as we’re looking to bundle one in as part of our loyalty program”. I said “no, I’ve always owned my music”. Shortly after that, I was offered a Spotify subscription as part of my phone package, and I just never looked back” – User #12

These scenarios where users are incentivised to try music streaming are not uncommon, as shown by the IFPI’s 2023 report which reflects a domineering 67% of the global market revenue portion going to streaming versus physical format’s 17.5% portion (as shown in Figure 31).

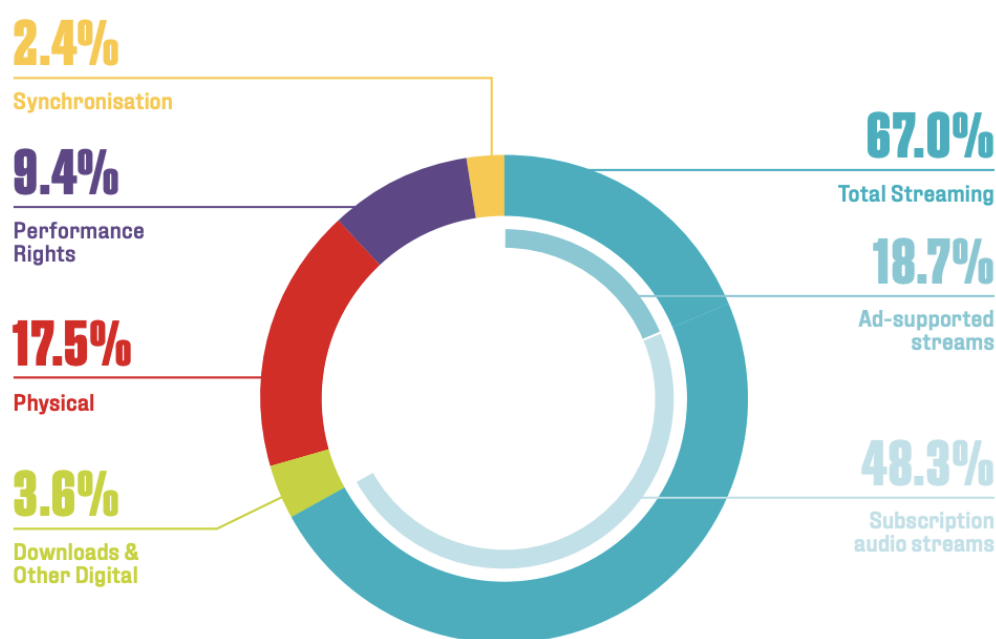


Figure 31: A chart showcasing global recorded music revenues by segment in 2022 (IFPI, 2023)

The experiences of User #12 also, again, reinforce the previously highlighted “post-fidelity” attitude held by listeners, indicating the relevance of Katz’s theory to today’s musical environments (Katz, 2010, p.164). Users are encouraged to rent musical abundance, rather than the smaller collection of physical music, which is argued to be fuelled by personal, intentional music curation (Hornby, 1996).

With regard to the theoretical implications of these smart devices, it could be implied that Spotify actively aids users by consistently consolidating what a streaming platform looks like, what it delivers, and how it should be interacted with, by making the application as portable and as consistent as possible across differing devices. However, Spotify’s actions are capitalist in motivation, where free account users are given less choice and flexibility of listening choices. In addition, the lack of social connection and input from users at platform level (as mentioned in Chapter 4), and the economic incentives put in place by many affiliated organisations (as part of bundles or deals) implies that the portability and popularity of Spotify is due to a more linear, deterministic nature.

5.3.3.1 Reflections on Mediums

This reliance upon smart devices and the Spotify application to facilitate streaming reflectively imitates the musical formats and conditions of previous decades, where a physical medium such as a cassette, record player, or iPod were needed to play musical works. However, from this study’s interviews, it was found that regardless of these similarities, the majority of interviewees’ opinions are more positively associated with streaming, in comparison to their associations with physical music formats. The following excerpts are from a portion of interviewees who have more than one physical music medium at their disposal, but validate their preference of Spotify due to the efficiency and portability of its service:

“...it’s the hassle of having to find the CD that I want, especially if I’m trying to drive. Or even getting my vinyl player out the box. My record player’s over there, it’s under stuff. So, I’d have to get it, then also plug it in, set it up...it’s just a long process. Whereas I can press a button, I open up Spotify on my computer and just press play.” – User #7

“The idea of carrying an old school, little portable CD player wherever you are, and a whole load of CDs, and your bag just seems like a massive pain. Whereas, having a phone with Spotify on there and whatever song you could possibly want... I think it is that convenience and having everything in one place is the big appeal”. – User #4

These excerpts confirm how the nostalgia and physical effort required of physical mediums encourages many users to choose to pay or maintain a streaming platform account like Spotify in the name of physical and logistical convenience. As mentioned by User #4, one of the main

differences within the streaming eco-system is that the smart devices utilised to facilitate streaming are not made in isolation for music listening. What makes the interviewees' shown preferences of device fluidity so interesting, is the way in which it implies deeper levels of connection between the user and the service. However, in contrast to this desired focus, many of the interviewees stated that they stream Spotify and other music in the background while doing other activities, therefore requiring their focus to be on the task at hand and not on browsing of the Spotify interface. Therefore, from these findings, it is clear that Spotify allows users to experience music within a variety of new and old environments, consequently aiding users in evolving their listening practices and modernising required patterns created by the physical mediums of less fluid-devices.

However, in examination of these findings in reflection of my research aims, the multi-purpose nature of modern streaming devices – again – raises questions in regard to the impact of these devices on the relationship between a user and the music. Are users able to build a deeper connection with music through these devices? Or is it implied that by having such vast musical access placed within these multi-functional and powerful devices, that music listening has become just as utilitarian as the very tasks that Spotify allows it to accompany?

5.3.4 Isolated Listening

In contrast to this common practice of streaming Spotify in the background while doing other tasks, I asked my interviewees if they ever used Spotify to listen to music as an intentional listening activity in itself. In response, 30% of users engaged in what I refer to as 'isolated listening'. However, these users identified that there still needed to be specific reasons for this, such as the following:

- Specific time had been set aside to relax.
- They needed to find a specific sound on Spotify.
- A new album had been released by their favourite artists.
- Their favourite genre was being played on Spotify.

The need for specific parameters to facilitate isolated listening, along with such low user uptake confirms that this group of interviewees identify music streamed on Spotify primarily as audio to enrich their everyday tasks. Through streaming, music has fused further into the everyday life, but from these empirical results, it could be argued that a user's concentration and expectations of the very music accessed on these platforms has lessened, due to the fluidity of device and environmental access.

In reflection of literature in Chapter 2, the idea of music being used as a background soundtracking tool for the daily life signifies that music's uses and intentions as an artefact have evolved, moving in tandem with the changing of societal lifestyle and with aid of technologies such as Spotify (Rambarran (2021). However, the assisting role of Spotify in this evolution argues in favour of technological determinism; in the powerful compressions that technologies have folded music into during the process of shaping music as an all-access societal tool.

5.4 User Experiences of Search and Discovery on Spotify

As discussed in Chapter 4, Spotify creates a bright and abundant search environment, allowing users to tailor their approach to the search and discovery tools available when using the platform. This section details answers given by users in response to questions around their engagement with Spotify when navigating the platform in order to find music.

5.4.1 Users Who Avoid Search and Discovery Features

When interviewees were asked about their preferred methods of finding music on Spotify, their responses were mixed. Although a number of methods were identified, the majority of users stated that they preferred to use the platform in an autonomous, manual style. Instead of relying on the recommendation algorithms or features offered by Spotify, 74% of users treated the platform as a giant catalogue and would go into their search with a pre-existing decision of what they already wanted to listen to, searching directly via the search bar for tracks or artists. When asked why they preferred this method, many users answered that they preferred the convenience.

Similarly, another method identified by interviewees was their preference to use Spotify solely as a collection or landing point for songs that they discovered through the assistance of other mediums. For many users, the songs they discovered were found through radio or other public airplay. Following this discovery, they would then utilise third party audio-based listening/cataloguing applications like Shazam, or browsers like Google to search for details. Many of these applications are linked and allow users to save directly to their Spotify library. The justifications for these preferences surrounded themes of self-knowledge in musical taste, and the convenience of direct search and linkage.

As shown in Chapter 4, Spotify's expert Editors and algorithms work to provide users with an array of public and personalised playlists to choose from which cover many facets in efforts to accommodate every user's taste, simplify user experiences, and provide unique personalisation. However, given these interviewees' preferences to actively discover music

outside of Spotify, it is evident that there is a strong human need for autonomy and self-direction in these interviewees' music listening practises. The rejection of Spotify's guidance and influence reintroduces the user-platform relationship from a different perspective: that users' intentions hold more influence than the accommodation of Spotify's technologies:

"I don't tend to browse Spotify to try and find music... I used to discover music by listening to the radio like Classic FM, or listening to BBC Proms... I'd go "Oh, I like the sound of that", so then I'll go and find that on Spotify and add it to my playlist so I can listen to it again" – User #23

By utilising strictly manual direct searching, these users reject exploring features like those mentioned in Chapter 4: including artist information, social information, and recommendations. When asked why they didn't use these features, User #9 – who identifies as an active musician and researcher – explained that Spotify did not provide them with enough information to make the features of worthwhile use. Instead, they would choose to visit a more detailed website, such as Bandcamp or the artist's official site.

5.4.1.1 The Role of Social Media in Musical Discovery

Within the category of users who actively discover music outside of Spotify, many of the participants pointed out the presence of social media in their lives and how this influenced what music they were exposed to. Several non-musician users explained how they would stumble across interesting music which was featured in the audio-visual content featured on platforms such as TikTok, Instagram and Facebook. However, audio on social media platforms has taken on a more important role, becoming a facilitator of trends and social expansion online (Murphy and Hume, 2023). For example, although they use the platforms for their own personal uses, participants like User #6 also must utilise these social media platforms as an influencer to build followings, ultimately relying on this type of relationship with the audio found on social media in order to connect with more users online.

"...it's the most frequent way that I find songs – social media would definitely be first. If there is a trend on TikTok that has a certain song, then you can then search it on Spotify and play that song. Before TikTok it was (and still now is) when people share a playlist or a song on their [Instagram] story, or sometimes just the background of a video on YouTube – I'll find music there quite often and head over to Spotify." – User #6

These 'trending' audio/music snippets accompany a range of short form content on social media platforms, including content around performing, storytelling, fitness, and lifestyle videos. Aside from gaining audience interest through trends, artists also utilise social media to tease their own audio snippets of upcoming releases, garnering online interest from users who then

must follow the artist to find out release details (Murphy and Hume, 2023). An example of an artist doing this is WITCHZ, an independent artist whose music career began on TikTok (WITCHZ, 2023). By repeatedly recycling the audio of his latest popular release on differing short form video snippets, WITCHZ successfully updates online fans of the track's progressions while also sharing music videos and Mexican themed, grunge-esque artistic impressions of the song's meanings. However, music which facilitates a trend does not have to be recently released – older songs from established artists such as Fleetwood Mac, Queen, Frank Sinatra and Dropkick Murphys have all found their audio being revived in the use of dance and acting trends in the online landscape (Millman, 2020). This external facet of music discovery reinforces the challenge faced by Spotify to design discovery features which maintain user attention.

5.4.1.2 The Rebellious User

A notable user response which showcases preference for intentional search and autonomy came from User #15, who explained that their lack of interaction with Spotify's discovery and recommendation features was directly grounded in their awareness of the algorithms using their listening and behavioural data in order to function. Their response to this awareness was to try and rebelliously skew their recommendations in the name of user and data autonomy.

“...there are times where I intentionally listened to songs to throw the algorithm off, which I don't think will happen because I'm only one in many millions of users but doesn't matter, I still do it because I like disobedience.” – User #15

This defiant behaviour, combined with the majority of users opting to search for music on their own terms, further confirms the existence of an upholding of user autonomy in the musical experience on Spotify. These behaviours are impactful as these users are actively reinforcing their connections with their specific tastes through the use of direct search and skipping of other Spotify offerings. These answers also signify that this specific type of user has specific listening needs, and that they cannot be influenced by specific features which do not align with their self-directed decisions. These findings serve as a reflection of the intertwining and complex nature of individualistic listening, and the challenges that Spotify as a platform faces in capturing the interest of specific groups of listeners.

5.4.1.3 Users Who Interact with Search and Discovery Features.

The minority of interviewees who did interact with these features, shared strong enjoyment of the recommendation services and their discovery experiences on Spotify. When asked to elaborate, a number of motivations arose from users which catered to both personal and professional perspectives.

From the interviewees who utilise Spotify for personal listening, there was appreciation for the personalised recommendations provided by Spotify, specifically in the 'Daily Mixes'. As previously discussed in Chapter 4, the 'Daily Mix' playlists accurately group a user's recent listening history into an assortment of six playlists. One reason for this popularity was the convenience that these compiled playlists provided, as they featured the specific tracks favoured by users (at that time).

"I'm quite lazy when it comes to music. I don't like to go and explore. I like someone to give me what I want, it's even nicer if they know what I want. I don't even want to know what I want myself... The most exciting I'll get is probably the daily mixing [playlists] that you can click on, and they'll present you with a bunch of different music you can listen to..." – User #17

For some users like User #1, the recommendation features and Daily Mix playlists are all that they listen to when using Spotify:

"I just go into the playlist or go on 'daily mix'. There's normally like five or six different mixes, and each one has a slight difference, and underneath there, there's a "try these artists from 2000's, 2010s..." etc. Yeah, I normally just stick to the playlists" – User #1

This high level of engagement from these participants not only conveys a level of embedded trust in the Spotify to deliver desired experiences, but also implies that these specific users are satisfied with the decision to relinquish responsibility to the platform to shape and create their music listening experience on a regular basis. However, by remaining within these algorithmically generated echo chambers, it could be suggested that these users are relieving their musical autonomy to technological aids, allowing the recommendation algorithms to potentially shape their tastes and discovery even further in the future. When examining these findings in reflection of the previously discussed literature on musical communities and online curators, these interviewees actively relieve themselves of the responsibilities detailed: they no longer need to work to collect, curate or search for music, as Spotify carries out these tasks and has content prepared for consumption at all times. This is an important development in the modern trajectory of music listening, as users are actively encouraged to do less of their own autonomous discovery.

However, in contrast to these arguably more all-or-nothing approaches, some interviewees inhibited more mixed attitudes to their discovery experiences. One example of this was User #7, who chose to explore the platforms in a completely unplanned manner, often exploring just to see what happened:

“... I normally go off like what's trending. You know, the “trending” button, or “what's new” button... I'll go on to that and I don't really use the search bar, I'll just press random buttons and see what comes up” – User #7

However, it is also notable that later on in their interview, User #7 rejects certain aspects of the echo-chamber effect of the Spotify algorithm, expressing a desire for the platform to suggest a higher quantity of lesser-known music within their favourite genre (musicals), as they always seem to get the same recommendations. This is an interesting issue to raise, as this user's desire is directly at opposition with their approach to platform navigation. Although they utilise the search and discovery features on offer, User #7 relies heavily upon Spotify to provide both the material and direction of their daily listening experience – actively trusting a system which is designed to reinforce positive associations. This scenario reflects the insights from section 4.3.2.3, that users wish for the algorithm to take the position of supplier, seeker, and informant to a deeper level, whilst also asking the algorithm to develop the new, novel role of entertainer, creating surprise and spontaneity in its recommendations. This also echoes the struggles that recommender systems face with spontaneity, as previously described by Johansson et al., (2017) in Chapter 2.

5.4.2 User Age and Recommendation Usage

When studying the answers given in regard to inferred age, of the small group of users who chose to use the recommendations were spread across the age brackets:

- 30-40 bracket: 5 users (55% of total user bracket).
- 20-30 bracket: 4 users (33% of total user bracket).
- 40-50 bracket: 2 users (50% of total user bracket).
- 50-60 bracket: 1 user (100% of total user bracket).

Given that the majority of participants in this study are from the 30-40 bracket, this distribution of answers seems proportional. However, it is notable that when asked why they chose to use the recommendations, User #11 (the only user in the 50-60 bracket) said:

“I'm not very good at listening to new things, unless someone suggests it. I tend to listen to the same music, the same songs, the same artists because they are just what I like.” – User #11

This attitude of being given direction and reassurance on what to listen to potentially reflects this user's previously mentioned enjoyment of radio listening, where the responsibility of choosing and organising music is removed. Similarly to User #11, the users in the 40-50 bracket who chose to use recommendations expressed approval in Spotify's ability to reinforce the

musical styles of artists that they already enjoyed listening to on a regular basis. The maturity in user age and their exposure to different music mediums raises further questions around types of platform usage in relation to their previous musical experiences. Could this enjoyment of Spotify's algorithmic offerings be in part to the solidified music tastes built over previous decades of musical experiences? Or do mature users feel drawn to the use of recommendation systems due to Spotify's mimicking of musical radio – using a modern version of a popular tool that is still used widely by those who have grown up alongside predominantly physical music mediums?

5.4.3 Musical Professionals and Active Musicians

When asked about utilising the features of Spotify for search and discovery, I was informed by music and industry professionals of the importance of using Spotify to gather knowledge for professional benefit. For Users #20 and #14 who approach Spotify from the A&R perspective, this included browsing the platform for information on specific artists, popular playlists, and for checking all additional information included on artist profiles.

“I do a variety of things. I have a bunch of playlists that are focused on new music. Which I check quite regularly, I just quickly scan through ‘Release Radar’, which is the automated playlist. I go to artist profiles, label profiles, and I really use any possible method that you could on Spotify.” – User #20

User #14 (an A&R manager) even expressed their desire for Spotify to include more features, in order for their clients to be able to professionally build closer relationships with their fans:

“You have to have all of your digital footprint or online footprint completely nailed down. So if anyone finds you... you want them to be turned on, engaged, and for them to then go out and find out more and more...” – User #14

From these engagement cases, the equally important and diverse needs of users who utilise the platform are demonstrated. Showcasing the requirement for Spotify to hold contextual musical details and accessibility.

5.4.4 Do Users Search for Genre?

As discussed in Chapter 2, musical grouping through the scope of music genre has largely acted as the main method of music categorisation for decades, with musicians and labels building identities around the concept (Middleton, 1990; Negus, 1999). Genre is shown to also remain relevant in the landscape of Spotify, as shown in my breakdown of the platform's musical representation – through API-data retrieval – in Chapter 4.

Therefore, in order to understand what influence the pre-established, traditional notion of musical genre holds in the actual daily streaming practices of users, interviewees were asked if they searched for music by genre or interacted with music genre-themed playlists. In response to my query:

- 8 users said that they never searched for a specific genre or used Spotify's genre playlists.
- 11 users said that they did utilise the functions from time to time, but not regularly.
- 4 users remained undecided.

By observing these answers in reflection of the previous findings discussed in Chapter 4 – which showcased strong popularity around genre on the Spotify platform – this allowed me to gain insight into how accurately Spotify fulfils interviewees' interpretations of music representation, as is outlined in the following section. Therefore, by including this line of questioning, I was able to gain deeper understanding of how music's presence on the platform has impacted those who utilise it.

5.4.4.1 No

This presence of interviewee opt-out was unsurprising based on the previous findings of this research which reflected the interviewee attitudes to music search. As previously mentioned, approximately 74% of my participants preferred to manually search Spotify for specific music, making it clear that a substantial portion of these participants already preferred self-direction in their listening experiences. Based on these factors and previously identified attitudes, it is understandable that these attitudes would cross-over regarding Spotify's representation of music genre. In addition to these pre-existing findings, many users who voted no also provided personal justifications and examples as to why they didn't engage, which varied by nature: including themes of musical expertise, preferences, and autonomy.

For User #21, the idea of searching by genre or using the genre features from Spotify was simply too restrictive and specific for how they wanted to experience their music on the platform, reinforcing the previously discussed ideas of user expectation and platform accommodation:

"I don't like to search by genre. I don't want to be like "oh I'll listen to jazz today". I just try to find different things or maybe stick to the same thing for a while...it's not really typing in 'soul', 'funk' or 'R&B' into Spotify. I've never typed in 'ambient, acoustic flow' or anything like that..." – User #21

In contrast to this preference of fluidity and broadness, other users opted to not utilise genre as a search parameter, due to personal judgement that Spotify did not accurately capture the

essence and artists who belonged in their favourite genres, reinforcing previous issues of user individuality and subjectivity in combination with the fluidity of musical genre shaping (Holt, 2007). An example of this is given by User #14, who self-identifies as a hardcore metal fan and avid user of Spotify artist and track recommendations. The user explained that they will only potentially utilise genre-searches if they don't know the genre areas, but never use it for the metal genre due to inaccuracy. They further explaining that this is a commonly frustrating experience for the metal community, many of which have their own intrinsic ideas of how their favourite genre and its sub-genres should be represented.

“...if I'm exploring a new genre, then maybe, but I've always found it to be very disappointing. It could be in part because there's not really any genre that I'm aware of where people are so narrow minded as metal [genres]. They can get two metal fans in a room, and they will actually despise each other's tastes in music... to the person who's not into that sort of music, it might sound the same, but the two different fans will see it as completely different. So yeah, generally I found that putting on something like heavy metal workout is just a bloody nightmare...” – User #12

This experience speaks to the previously discussed literature of Holt (2007) who positions the concept of genre as the consequential agreement, movement, and make-up of a community, who utilise it to identify and place parameters on their existence. Therefore, in User #12's experience, the differing viewpoints of metal fans showcases the ongoing existence of a group-based need to value and define musical concepts and genres. In reflection of User #12's experiences, the discussed literature, and the multiple metal-based genre-seed findings in Chapter 4, it can be assumed that commercial streaming platforms like Spotify have not yet garnered enough reputation within specific genre scenes in order to address specific communities or knowledgeable fan-types with genre recommendations.

In similar veins of genre inaccuracy, other users felt that the experiences offered by Spotify lacked genre-based context and style. For example, User #15 explains that they used to enjoy using genre search, but found that they had to stop due to the strange pop genre groupings which they experienced:

“...for example, Adele is classified as pop music. Britney Spears – that we've already talked about – is classified as pop music. I rarely want to listen Adele and Britney back-to-back...” – User #15

The issue faced in this scenario by User #15 is the sheer difference in the musical energy of these artists. Often referred to as the ‘Princess of Pop’, Britney Spears's sound is grounded firmly within the 90s and early 2000s, featuring lively dance beats. In large contrast, Adele's

music features slower, more melancholy ballads, with traces of soul music laced throughout. Therefore, it can be understood as to why the user finds this artist grouping so jarring as a listening experience.

The highlighting of these experiences showcase a potential weakness in the data feedback loop and the metrics used to power the Spotify algorithms previously discussed in Chapter 2 (Webster, 2021; Morris, 2020; Pastukhov, 2019). These answers also provide this study with deeper insights into the complexities faced by technologies which operate on a mass global scale and aim to capture and fulfil the experiences of as broad a range of users as possible.

Additionally, these users form part of the previously discussed group of listeners who prefer to maintain control over their musical experience, rejecting Spotify's input. Instead, these users opt to utilise direct methods of searching or remain within the realms of their own musical tastes. Some users additionally reject Spotify's idea of musical genre, as they prefer to project their own intrinsic understandings and boundaries around music genre and genre contexts, adding a new layer of understanding to user autonomy in the 21st listening century. Furthermore, these experiences confirm that the individualistic and cultural and contextual expectations of musical scene, genre and patronage are intertwined and deeply rooted in humanistic motivations which currently remain part of the challenge for computational calculations of streaming platforms like Spotify.

5.4.4.2 Yes

In contrast to those who chose to avoid utilising genre as a method of search, a number of users provided answers which indicated a more positive appreciation of Spotify's genre-themed offerings, features, and playlists. However, as can be seen later in this section, even those who regularly utilised the function, found specific issues in the service due to subjective musical preferences. An example of positive search experience can be found from User #10, who explains that they search for new genres whenever they get bored of their current musical selection. Following this, they then utilise the genre playlists and recommendations provided by Spotify. In a similar vein to User #10, other users prefer to search for eras as their parameters for music. User #11 specifically searches for 80s music and engages with Spotify playlists which reflect this specific era. When asked if they enjoyed the selection provided, they affirmed that Spotify captures their specific love of the 80s well, and that they have been often recommended songs which they enjoy, and even songs from the 80s that they were happy to rediscover.

However, in contrast to these positive experiences, User #18 explains that they tried to use the same genre playlists to expand their musical experience on the platform, but they struggled to understand how these playlists related to specific genres, which therefore affected their ability

to fully enjoy the feature. From this input, there is a clear difference in confidence of use, which provides my study with valuable insights into issues surrounding accessibility and information availability, both of which would benefit greatly from future research.

5.4.4.2.1 Professional Motivations

In section 5.4.1, it was evident that users (#20 and #14) who identified as industry professionals chose to utilise Spotify's features and genre playlists to gather information which gave both musical and contextual artistic information. User #14 specifically described using genre playlists in order to get an edge on artist marketing:

“If you've got an artist that is, sitting between Indie rock, punk rock, and skate rock, then then I would start playing around with genre-based searches and try to get some intel about the different playlists and what is working on those playlists... I'd probably lean towards the Spotify curated stuff more so. Just because I would assume they just get more traction...” – User #14

User #14 was one of three Spotify users who utilised the genre settings of the platform extensively for work purposes. However, they explained that their searching was not as a result of their trust in Spotify's algorithmic genre groupings, but instead an exercise in efforts to understand the landscape of Spotify itself and how the platform interprets genre, as this was key to their understanding of how best to advise their clients on music creation, genre semantics and making it into their target playlist choices. This could imply a separation between these specific users from other interviewees when it comes to music and the user's awareness of taking advantage of the user-and-machine working relationship to facilitate their industry work. However, their professional experience and musical backgrounds, combined with their own subjective and commercial understandings of genre makes these specific users more likely to be critical of the labelling styles of the platform rather than a user who falls into the lay audience category.

However, other users such as User #16 approach the use of Spotify's genre playlists from the perspective of a music educator, seeking to gather knowledge of specific tracks and genres in order to teach students these tracks.

The SCOT perspective adds fortification to the idea that there can exist various types of reliance or identities between users and their relationships to Spotify. In this example, it is a case of users relying upon Spotify for not only access, but knowledge, treating the platform as an educational resource.

5.4.4.2.2 Still Not Fully Satisfied

However, many of the interviewees who did utilise genre as a search parameter reported not being completely satisfied with the results provided by Spotify, due to the perceived inaccuracy of musical groupings, or how recommendations often were duplicated and predictable. An example of this was given by User #3, who explained that Spotify didn't accurately group one of their favourite artists which was then being reflected in wider algorithmic recommendations:

“...not as much as I used to. I feel genre is a very, very vague thing to search by because I might search (for example) a band like Limp Biscuit who are deemed as nu metal or rap or hip hop or rock depending on who you talk too. For some reason Spotify will put them into heavy metal playlist. So, it becomes very difficult to kind of find the band via genre” – User #3

This scenario not only reflects previous sentiment on algorithmic inaccuracies in music streaming, but also reinforces previous findings in earlier sections, reflecting justifications given by interviewees who rejected Spotify's notions and understandings of genre in favour of their own subjective understandings and representations of genre.

By rejecting the promoted structures and conclusions put forward by Spotify, it can be seen that human knowledge and personal experience remains a challenge for algorithms to fully capture, providing a stark contrast with the technologically deterministic and drastic futuristic predictions made by many scholars within the musicology field who claimed that musical autonomy would be lost with the rise of streaming (Spilker, 2018).

5.4.4.2.3 Filling in the Gaps: The Autonomous User

A notable example of users taking self-directed learning into their own hands is User #19's effort to build on their own genre knowledge based off of informational gaps they find while using Spotify. This user refers to the crowdsourced website Wikipedia (in tandem with Spotify) in order to fill both musical and contextual knowledge gaps on the genre of artists that they enjoy:

“I'll go to Wikipedia and check out the genre and then go back into Spotify and search for similar. So, Wikipedia will pop up with the big names in the genre, or they'll give you a little bit of background that's missing on Spotify. So, that sometimes gets me to jump to a connection that Spotify doesn't necessarily make.” – User #19

This technique of utilising other platforms in order to enhance their process of music discovery shows that specific users are actively taking their music listening into their own hands and retaining levels of autonomy in their own discovery. By utilising a crowd-sourced website, it is

evident that this user prefers the input from one or more individuals whose contributions to specific genre subjects have been peer-reviewed by other members of the public. To choose this route is to reject the action of giving full responsibility or trust to Spotify to provide this knowledge.

This example also shows the range of hybrid pathways that the World Wide Web provides with regards to music discovery, even taking away time from applications such as Spotify who offer music as the core of their streaming service. However, within this specific scenario created by User #19, the concept of genre development is not the main evolutionary benefit provided by the Web, it is instead the autonomy which allows users from all backgrounds and knowledge bases the ability to seek out their own understandings of genre.

5.4.5 Searching for Music: Summary

When questioned on how frequently users streamed Spotify to facilitate their music listening experience, the majority of users said that they utilised the platform on a daily basis, with many users going as far as to give averaged hourly estimates of the time they spent streaming. When questioned about their streaming environments, of the twenty-three people interviewed, 87% of users said that they streamed their music from Spotify in the background while they were focused on other tasks that were appropriate to be accompanied by streaming. Users also gave examples of the diverse scenarios where they would likely use Spotify, including work, study, exercise, and other more niche environments. However, in contrast to this pairing of music with an environment or task, only 7 users also engaged in focused listening activity when using Spotify. However, those isolated periods were found to be justified with specific musical or personal reasons.

The combination of these answers provides deeper comprehension into the mass routine integration of Spotify into the everyday lives of users around the globe, and how it has consequently fused music into environments which it may not have been previously associated with. An additional factor which has advanced the integration of Spotify even further into the users' lives, is Spotify's compatibility with a variety of smart devices, making it easier for music to be streamed in the home and when travelling. Of these devices, the smartphone takes a priority position due to its daily importance in the life of the modern user.

From these findings, it is clear that the user-to-platform relationship appears to be self-reinforced by the user's desire for listening flexibility. According to these provided qualitative experiences, streaming platforms have tempered the impact of music: morphing it into a utility that is fused into the everyday life, acting as an additional enrichment to specific fundamental and non-fundamental activities performed by users. However, this 'luxury-turned-utility'

mindset shown by a number of interviewees also allows for the more positive perspective that the portable, all-hours access has consequently catapulted a digitally intangible version of music into even further importance through the functionality and interoperability of streaming platforms.

5.4.5.1 User Interaction with Search Pages and Personalisation

In my exploration of how users navigate Spotify to search for and discover music, it was found that the users' approaches to finding music on Spotify varied in effort levels, with a leading 74% of users opting to use the platform in a more autonomous, manual style. The majority of users prefer to search Spotify with an idea of what they already want to listen to, searching directly for tracks, albums, or artists through the manual search bar. When asked why they preferred this method, many users gave answers which conveyed that they valued the resulting convenience. For this majority of users, their experiences of discovery came not from Spotify, but instead from finding artists or tracks through radio or other public platforms – including the growing influence of social media platforms like Instagram and TikTok. Through the use of third-party audio-based listening/cataloguing applications, these users would find and save songs directly to Spotify, and when asked why, their answers surrounded themes of self-knowledge in musical taste and the suitability of direct search and linkage.

These findings present a strong presence of user autonomy, the valuing of convenience, and the rejection of Spotify's influence, which provides insight into the underlying need for user sovereignty and self-direction in the 21st century user's connection to music search and discovery. These actions also create clarity around the power wielded by user intention, and how it arguably holds more influence than the marketed accommodation of Spotify's varied algorithms, features, and playlists.

Some users did report using the features of the platform, where they mainly utilised the recommended Spotify Editorial playlists, or the personalised Daily Mix playlists which represented only their recent listening, but very few interviewees entertained the novelty features such those referred to in Chapter 4. This reported split in usage and engagement therefore creates a clearer understanding on the different types of users who populate Spotify: those who completely reject the use of Spotify's features, using the platform as a manual catalogue; those who dabble with features on occasion but don't fully utilise their functions due to personal or professional perspectives; and those who only use the personalised recommendations and give the platform full responsibility for their personalised, echo-chamber experience.

5.4.5.2 User Opinions on Genre Representation on Spotify

In my efforts to explore how Spotify's presentation of music may affect the ways in which users facilitate their listening experiences, interviewees were asked how they felt about the themes that Spotify used to present music, and if they ever searched for music by genre, or engaged with Spotify's genre-themed playlists. In response, a small majority of users voted that they engaged with genre searches and playlists, but not regularly, due to disappointment with the lack of genre representation or accuracy.

Alongside those who utilised Spotify for professional reasons, other casual users demonstrated desires for self-directed learning by additionally referencing external sources to build their genre knowledge, citing that Spotify had too many gaps and couldn't satisfy their need for further context. This qualitative evidence confirms that the concept of music genre will remain a challenge for music streaming platforms like Spotify to fully capture, especially in the eyes of its subjective users and their personal opinions of genre representation.

In contrast, the users who voted no to using genre searches and Spotify genre playlists were adamant that they would never engage with these features. This was due to both their desire for fluidity in their music listening experience and their dislike of Spotify's algorithmic inaccuracies and mismatched groupings of their favourite genre(s). These experiences present a user-led desire for Spotify to harness a deeper understanding of the communities who align with these specific genres. This evidence also showcased close alignment to previous literature featured in Chapter 2 on the importance of the community scene when forming and nurturing the musical genre (Lena et al., 2008; Holt, 2007; Middleton, 1990).

These ranging answers have displayed not only the users' individualistic expectations of music presentation and platform experience, but the strength of specific user groups' desire for autonomy in the search and discovery experience on Spotify. They also relate to Greenberg et al.'s (2016) original reasoning behind the exclusion of genre in their music studies, that genre does not allow for the "actual attributes that people perceive from music" (Greenberg, 2016, p. 597).

In summation of this presented qualitative evidence in combination with the findings presented in Chapter 4, it is implied that Spotify – although it has attempted to cover all facets of the human experience through its massive catalogue of playlists and numerous features – has not yet managed to fully meet all elements of users' expectations when addressing aspects such as search and discovery. This may be due to the issues that machine learning algorithms and broad platforms face around the precarious act of capturing the human experiences and spontaneity, and the amorphous concept of music genre.

5.5 “What Do You Do with Your Music”? User Approaches to Music Categorisation

Once users have searched through Spotify’s vast catalogue and found music which they enjoy, they are afforded a number of options with regard to ‘saving’ that file for their future listening. As highlighted in Chapter 4, users are able to categorise their chosen files (in either single tracks or album collections) by creating personal playlists, which they can keep privately for their own consumption or share their playlist(s) publicly. As also mentioned, users are also able to collaborate with selected peers, and can create algorithmically blended playlists, or manually share tracks into an open playlist with numerous users. This raises questions around how users view their categorisation activity on streaming platforms – does it affect their interactions and creativity with playlists? Additionally, the previous interviewee evidence I have presented indicates that a number of users are resistant to engaging with personalisation and recommendations due to their need for self-direction. This consequently raises questions around the potential for their attitudes towards playlist curation, a feature which notably encourages autonomy.

Therefore, in alignment with my study’s aims to explore the extent of which interviewees interact with Spotify to facilitate their listening experience, the interviewees were questioned about their categorisation and sharing techniques, their feelings around the actions of playlist creation and curation, and how they were influenced by algorithmic activity.

5.5.1 Users and Their Engagement with Playlist Creation

Firstly, I asked users to describe their level of engagement with regard to playlist creation and categorisation. From these qualitative answers, I thematically identified that user activity could be broken down into three levels:

1. No creation or categorisation: where no activity is undertaken by the user.
2. Some creation and categorisation: where a user has created a few simplistic playlists for events or functional activities (such as exercise) but mainly utilises their ‘liked songs’ list. These users tend to prefer one or more large unkempt playlists of tracks.
3. Active creation and categorisation: where a user has dedicated playlists to specific eras, events, and memories. These users also actively curate and maintain their playlists.

In addition to their initial answer, many of the users gave justifications to support their approaches, the majority of which, were orientated around value for money and convenience: such as timekeeping, efficiency in finding relevant songs, keeping relevant content in one place, and avoiding the cluttering of their online spaces. These justifications denote deeper

correlations to be found between levels of engagement in playlist creation and a user's control appetite and awareness of platform functionality.

5.5.1.1 No Categorisation Activity

Several users chose not to categorise their music, as they felt like the method was obsolete for their music tastes and uses of the platform. An example of this is given by User #21, who in section 5.4.4.1 was the user who described their desire for a fluid experience of music listening without the need for specific listening parameters, or action on their part. Therefore, it is understandable that when asked to elaborate on their reluctance to categorise their music or create playlists, User #21 stated that they felt like playlist creation was a forced attempt to separate out their lifestyle into labelled sections, which didn't align with their understanding of music as a fluid artefact:

“I've never really been interested in creating different playlists. I've got friends who have “chill mood”, “mood hype” sort of things, but I know what songs in my ‘liked’ list can do that... I don't need to be told by the man how to listen to my music... I don't need to be told to listen to “wake up, it's a beautiful morning” on a nice day via a Spotify playlist”. – User #21

This seemingly simplistic resistance against playlist creation confirms the existence of users who not only defy labelling conventions, but who view the partaking in these acts as being controlled by organisations in their individual enjoyment of music. By accessing this massive catalogue but choosing not to engage and feed algorithmic insights via playlist creation, it could be implied that these users are attempting to actively maintain autonomy and control in their musical consumption. User #21's disdain for the idea of granular organisation of musical taste also reflects the same attitude as Gioia's (2019) previously discussed disapproval of ‘the smooth’ – rejecting new technologies and the deidentification of artefacts in the name of streamlined functionality.

However, this motivation of retaining control was not shared by all who rejected playlist creation. In fact, many users within this category identified a lack of desire for control as the reasoning behind their disinterest in creating playlists or categorisation. They instead chose to add all of their songs into one large default ‘liked’ playlist, as they enjoyed the randomisation aspect, but did the bare minimum in order to get the desired effect. Instead of intentionally designing their listening landscape, these users preferred to place the responsibility of their listening pleasure onto the shuffle function provided by Spotify.

“When I find something that I like, I press the heart [like button]. It goes into my ‘liked’ list. So, when I press play, I can get anything from “jazz to kill yourself too” to songs that scream “just dance your t*ts off”” – User #15

This group of users didn’t see personal worth or convenience in organising their music into playlists, making clear that while music may play an important part in their daily routine, they don’t see its organisation as a worthwhile activity, showing a nonchalant attitude to music that is consumed through Spotify. These findings confirm that although streaming platforms like Spotify have lowered the barrier to musical access for users and have made music more personalised as a resource, it does not mean that users will choose to interact with Spotify in any way other than to listen – treating the platform like a static musical catalogue (Rambarran, 2021).

5.5.1.1.1 Too Much Work

Furthermore, it was also found that several users within this category simply felt overwhelmed by the task of organising their digital spaces on the platform, especially after interacting for a period of time in an unchecked manner. Instead, it was easier to just interact with their musical tracks through their unkempt liked playlists:

“I’ve got like 44 hours of music on this list that I just bang stuff into...every now and again I think “I must sit down and make some like themed playlists like an old-fashioned mixed tape”, and I never get around to it. So, I’ve ended up with this 44-hour playlist... it’s not so much curation as it is sort of cramming things into a cupboard and saying “I’ll sort it later”” – User #14

With regard to my research question around streaming’s impact, this viewpoint from User #14 could signify that hands-off users have less of an emotional connection with their chosen musical tracks. Instead, they see this curation activity as an overwhelming chore and choose to rely on the shuffle feature to facilitate their interactions.

5.5.1.1.1.1 The Influence of Previous Music Collections

What is also shown by User #14’s statement is that for some participants, the act of music streaming is still permeated by a reminiscence of older, physical methods of music listening. In this example, User 14’s use of the term “mixtape” denotes an understanding of wording and culture which existed widely during the eras of cassette tapes and CDs (Katz, 2010). In addition, they created an expectation for themselves to create a mixtape which is likely based on their own previous experiences with these mediums (Katz, 2010; Straw, 2000).

What is also notable is that in section 5.4.2, User #14 was identified as one of two users within the 40-50 age bracket who valued the use of Spotify's recommendation features. This (when taking the above statement into consideration) indicates a knowledge of the effort needed to purposefully curate and consolidate tracks into physical mediums with limited storage space. Therefore, the seemingly unlimited storage of tracks which is currently provided by Spotify may have contributed to this example of curation-based overwhelm experienced by User #14 due to previous experience. Furthermore, the negative feelings experienced by users at navigating such musical volume may also provide further explanation as to why other mature users in section 5.4.2 (e.g., User #11) were happy to leave the responsibility of organising and queuing music to the Spotify's recommender system.

Additionally, this discourse of physical mediums during user's engagement supports the idea that those who have been active agents in the collection of physical music may find that their behaviour of categorisation and curation has been influenced by previous experiences and routines associated with physical music. An example of this is User #4 who (in section 5.3.3.1) shared that they collected a number of CDs to play in the car, but no longer use those CDs or any physical music now that they are using Spotify. However, User #4's experiences with purchasing and listening to physical albums has permeated into their digital listening practices, as they often ignore recommendations to prioritise saving artists and entire albums to their Spotify libraries. Aside from a few playlists made for specific functional tasks, User #4 searches and saves primarily by artist and album, focusing the majority of their attention to listening to albums during their tasks, partially replicating the restricted scope physical music through digital means. This behaviour of album saving and listening was also shared by User #12 who identified their enjoyment of purchasing physical music and merchandise as a form of artist support and expression of identity.³⁹

These intentional uses of the platform in combination with User #14's previous wording around mixtapes indicates the pervasive influence of physical music and nostalgia within a digital landscape (Prey, 2019). Unlike nostalgic collectors who utilise physical albums to express their identities and musical tastes, these digital users actively save entire artist collections, turning their Spotify library into a digital shelf of saved albums. This example also offers the idea that Spotify provides a digital potential solution to users who have enjoyed the experience of owning and expressing their music collections in physical formats, and challenges ideas around the expression of identity being exclusive to physical music (as discussed in section 2.8).

³⁹ However, other previously avid physical music collectors (e.g., User #8) report the opposite of this behaviour, stating that they no longer find themselves able to listen to full albums.

5.5.1.1.2 Spotify Playlists: Surplus to Requirements?

In the process of listening to physical music, users are required to act as consumer, producer, and creator, and from the findings presented, it is evident that a number of these conditions still exist within Spotify's landscape for users (Glennon, 2019). As mentioned in section 5.3.3, in order to access the immaterial tracks, users must still satisfy physical conditions by having a compatible smart device with an online connection, and those who desire access to the entire audio catalogue must meet the financial conditions placed by the platform to unlock this.

However, based on my interviewee findings and the previously discussed Spotify user interface in Chapter 4, these initial requirements are where the similarities end, as it is evident that Spotify gives users a new level of intangible flexibility with regard to engagement and curation levels. Users are able to browse and interact with tracks with seemingly no storage, time or financial limitations, or follow-up requirements for commitment to consumption. While there are a number of categorisation and personalisation features available on the platform for users to take advantage of, in this specific scenario, several of this study's participants are able to embody the role of consumer and promoter and reject the responsibility of creator without the obligation to further engage. The ability for these users to simply 'like' their preferred songs without having to take further editorial action to engage showcases the flexibility of Spotify as a platform, and how it has been designed to appeal to users of all listening types.

The viewpoints of these users who prefer to have little to no engagement with playlist creation or curation also challenge previous writings on streaming platforms (in Chapter 2). In contrast to statements that users brought a new dimension of active engagement to music listening through the actions of "self-sharing", discovery and remixing, the presence of this group of detached users' challenges this, due to their rejection of the platform's offered experience, and preferred minimalistic use (Spilker, 2018, p.89). Therefore, this strengthens the development of user autonomy, as the rejection of playlist creation provides another example towards the emerging caricature of the rebellious user in the 21st century listener pool.

5.5.1.2 Some Categorisation Activity

"I've got a playlist for work that I call "Code" because I started it when I was coding... I've got a playlist called "Heavy" ... the heavy [metal] stuff goes in there and then I've got one that I just dump in everything that I kind of like..." – User #19

The second identified category of users was made up of individuals who had created a few simplistic playlists which were dedicated to specific functions or music genres, such as User

#19's given examples of coding and heavy metal playlists. These specific users often opted to use Spotify's Editorial playlists alongside their own.

As also seen from User #19's example, these users usually owned at least one large unkempt playlist which housed everything they needed. These playlists were preferential as the users knew where everything was at any given time, acting like archives for users who would search within the large list of tracks. User #20 found this flexible method effective for storing all songs of artists which they enjoyed, so they could access them with more ease.

“... I create them and then just sort of leave them in a collection... sometimes if there's an artist, I really, really love, Like Daft Punk, there's usually a playlist with everything in there. I follow a lot of [Spotify] playlists and I've listened to quite a few... I've made the ones I want to listen to in my personal time.” – User #20

These users represent a more balanced approach to the Spotify experience: where they demonstrate levels of individualistic action, but also place responsibility on the platform for times when they do not have the motivations to create from their own inspiration. This reflects the flexibility of the experiences that can be had on Spotify and again, provides a more grounded perspective towards the role of Spotify in the daily lives of users, which is not fully represented in previous writings such as those featured in Chapter 2. However, it reinforces previous statements that Spotify has become a prevalent companion in these users' wider cultural activity without consequence (Johansson et al., 2017).

5.5.1.3 Intense Categorisation Activity

In contrast to the previous groups of users, a small selection of participants self-identified as active playlist creators and curators. From these findings, it was clear that there were key behaviours which separated group two and three: including time frequency, attention to detail, and enthusiasm surrounding the act of curation. However, there was also a high degree of variation found in the granularity of these users' categorisations, ranging from creation of playlists on a daily basis, to creating separate annual playlists over a period of years. The differing levels found between these users who identified themselves as active curators again showcases the flexibility of how Spotify as a platform works to facilitate users with differing abilities, knowledge, and music tastes.

Notably, these users were most commonly creating playlists which aligned with specific activities, which reflected their everyday habits (e.g., 'driving', 'running', and 'work' playlists). However, even though these themes reflect more functional use, one factor that elevated the activities of this group is the presence of consistent attention to the content within their playlists. An example of this is User #5 and User #6 conducting regular housekeeping on their

playlists. Both users explain that they maintain the size of their playlists by adding in and switching out music, leaving no room for songs which no longer interest them. By carrying out this activity, these users are actively designing the playlists to represent their current music tastes and as a consequence, the archiving function which many playlists unintentionally embody for many users is subverted. This activity of regular playlist maintenance was not carried out by all users of group three, suggesting that the attention to detail regarding curation can be subjective to audiences, influenced by their experiences, personal habits, and musical backgrounds.

While not every user carried out regular maintenance of their daily playlists, other users chose to adopt even more intense approaches. As an enthusiastic Spotify consumer, User #8 explained that they had created a monthly playlist since 2015, making them a dedicated curator for the last eight years.

“I’ve made a monthly playlist since 2015... I’ll listen and there will be some months where there was a particularly great memory and it’s kind of helps me go back to that particular time” – User #8

This act of dedicated playlist creation means that through this monthly activity, User #8 has created almost one hundred playlists for archival purposes, again showing the range of purpose that Spotify can facilitate, dependent upon users’ personal approaches to music.⁴⁰ This act showcases how the platform has suggestively facilitated an emotional connection between this user, their music, and their playlists, as they partly utilise this monthly method for the purpose of memory and record keeping. In this scenario, the user has actively adopted the role of archivist, categorising music without judgement based on the timestamp of the song’s entry into their life, or the new personal meaning that they assigned to the track(s). In addition to User #8’s act of monthly archiving, they have also created more simplistic playlists which apply functionality over musical content or style: including a ‘car’, ‘walking’ and ‘gym’ playlist – reinforcing the flexibility that Spotify can offer into a user’s listening experience.

In addition to the creation of playlists, many from this category of users adopted personal processes and rituals which aided them in navigating the musical abundance of the platform, and in deciding what tracks went into their playlists. User #20’s process requires that tracks must go through a probationary phase in their default ‘liked’ songs playlist. If they continue to enjoy the track, then it will eventually be saved into the appropriate, more permanent playlist of choice.

⁴⁰ As of the year 2023.

The actions reported within these empirical findings show users becoming active professional curators in their online spaces, reinforcing previously mentioned ideas by Zhong et al. (2013). However, with regard to these current findings across all three groups, it is evident that previous research neglects to discuss the array of choices available to a user, and how they can choose to accept or reject the role of curator. Instead, these interviewee experiences indicate that (if they choose to) the user will act as a curator based upon a combination of musical connection and lifestyle requirements, which are reflected in their playlists on Spotify. These findings further fuel the requirement for discussion around the topic of user autonomy as encouraged by the marketing and promotional work of streaming platforms like Spotify.

5.5.2 Streamlining Convenience: User Spotify Hacks

A notable issue which arose during this examination of interviewee behaviours on the platform was the different types of listening ‘hacks’ carried out by users which resulted in quashing their need for categorisation. These behaviours were carried out by users in order to make their listening more convenient, by creating more streamlined access to their favourite tracks, without spending time creating and categorising playlists, demonstrating scenarios where users have identified a need of convenience which has not been met through the standard functions provided by Spotify. Some of these examples involved user knowledge around platform functionality, such as User #1’s way of making calculated listening choices so that all of their frequently listened tracks were algorithmically fed into their personalised ‘Daily Mix’ playlists.

“I’ll just play a ‘liked’ song, and then listen to it a few times because I enjoy it... then by ten to fifteen listens, the song is then on one of my daily mixes or it shows up on the repeat playlist” – User #1

The previously shown rebellion from User #15 in section 5.4.1.2, where they deliberately listens to rogue tracks in a random manner in order to throw off their algorithmic personalisation, may be considered as a more sinister form of ‘hacking’, where the user is attempts to create disruption through the assertion of spontaneous individuality.

Another example of platform hacking is shown in the use of an ad blocker from User #10 who consequently uses Spotify for free without the disruption of adverts. Overall, these proposed hacks reveal a group of users who are habitually gamifying the platform and taking control within the pre-set rules and boundaries which are applied through Spotify.

It was found that the mindsets of these users who found ways to tweak the system to their benefit, were of the attitude that they may as well use Spotify in a way which suits them. From the SCOT perspective, these actions are the work of humans who are accessing a technology for

a specific purpose but finding ways to alter the platform's defined processes for their own gain in both listening and convenience. The majority of the users who were taking part in this type of behaviour were paying subscribers which subsequently raises future research questions around the idea of user use expectations in correlation to their subscription type.

5.5.3 User Reflections on Sharing Music from Spotify

As mentioned in Chapter 2, a large part of the musical experience is the sharing of views and opinions with others, and this has become more enhanced within the digital age of streaming (Holt, 2007; Spilker, 2018; Prey, 2019). In addition to the features which are hosted on Spotify, users are able to share their preferred music externally with peers on other sites and platforms.

This external sharing includes embedding tracks into web pages and allowing users to copy track links and paste them onto other compatible websites, messenger applications, and social media platforms. This distribution flexibility mimics the same fluidity that was found in discussion of the range of Spotify-compatible devices, making clear that the wide reach of the platform is streamlined through inter-operability. Users are even able to log into Spotify using their Facebook credentials, further demonstrating the levels of integration between Spotify and other digital platforms.

However, even with this level of integration between platforms, it was clear from interviewee answers that not all users are comfortable with sharing their listening, with many preferring to keep their tastes private.

“I think my music taste is personal. People only get to listen to it when they're with me in the car... I don't normally share” – User #5

This example from User #5 echoes Gay et al.'s (2013) reminder on the inherently private act of music listening within the conceptions of what objects and acts belonged in the public and private spheres (as shown in section 2.1).

The remainder of this section briefly discusses the answers given by two users who do enjoy sharing music externally, viewing their acts of sharing as part of their listening experience.

5.5.3.1 Sharing to Social Media as Part of Music Listening

It was previously mentioned in section 5.4.1 that, for many Spotify users, popular social media platforms play a large part in their discovery of new music, which in turn raised questions around the likelihood of these users sharing their tastes through social media. An example of this is User #12 who uses Facebook to join social and fan groups around bands before upcoming festivals, sharing links from Spotify to specific songs.

“I do share music quite often [online] and don't really get any engagement, but I don't care. It's just like wearing a band shirt that I love. I just feel like I need to shout into the void about how much I'm loving this particular thing and it's almost secondary if anyone actually clicks on it” – User #12

This online behaviour reflects a digital version of musical communities, as social media allows users to create spaces for groups to upload and share content of their favourite artists, including accessible links from music streaming platforms like Spotify (Holt, 2007). This also demonstrates that through the linkage of these platforms, users are able to interact collaboratively to deepen their experiences and knowledge of music and create their own social experiences and musical identities through a blend of human and digital approaches.

As also shown from this excerpt, User #12 shares their favourite tracks online into their social spaces among peers. This sharing of music with a lack of agenda around social engagement or acceptance signifies the dedication of User #12 to their musical tastes and utilisation of digital tools in their listening experience. This nonchalance around acceptance from others arguably showcases another type of rebellious behaviour in addition to those previously noted within this project. In an online environment where engagement is the currency, for User #12 to continue to share music (when it is shown that few others interact) creates imagery of a niche identity-based act of revolt fuelled through the use of platform interoperability (Murphy and Hume, 2023).

This notion of identity was strengthened by User #14 who linked the popularity of sharing to social media to the pleasure users get from actively displaying their identity and personality through music taste. They also described – from experience – how certain types of users and fans often feel a need to be influential within their fields of music preferences based on the fundamental human characteristics which are often enhanced on social media platforms.

However, in contrast to this use of the Facebook timeline, other users prefer more temporary audio-visual sharing methods. For example, User #15 prefers to share directly to their Instagram Stories (a variant of short video which is available to view for 24 hours), as they prefer to broadcast their listening tastes directly to their followers for a brief period of time in alignment with their mood, allowing others to press the links and open the shared track in Spotify (Instagram, 2018). This socially driven approach to sharing is also adopted by User #6 who believes in the value of using music to facilitate connection, even if it's temporary:

“I think it's good, it's just another way to connect people to things or other people [online]. You can share how you use music or how it helps you. I think it's another way to resonate with people and connect with people” – User #6

These described methods of sharing music from Spotify to social media platforms conveys the desires of these users to be identified in their individuality through musical taste. It could be suggested from the perspective of SCOT theory that these given answers conclude there is not only importance in the consumption of music on Spotify, but in its given identity as a social facilitator, in the sharing of music as a social function in the listening experience, and that it can be the launchpad for user is to solidify their online musical identity.

5.6 Chapter Summary

This chapter has successfully explored and presented the qualitative findings from twenty-three Spotify users pertaining to how they navigate the platform's interface to facilitate their music listening. This exploration has included the examination of interviewees' interactions, habits, and opinions of the platform at key stages of the music streaming journey.

From my findings regarding the interviewees' reasoning for using Spotify, the overall consensus was that these users enjoyed the simplicity of the platform, in strong addition to the value for money that Spotify provides through offering vast musical access for little or no fee.

In examining account and subscription choices, it is clear that this decision is influenced by a user's appetite for platform control, and the specific economic, personal, and practical values they expect to gain from the addition of Spotify in their life. This concludes that Spotify successfully manufactures a flexible experience for both its paying and non-paying users, with the subscription-based differences taking the form of altered accessibility, audibility, and effectiveness in the streamlining of the platform experience.

5.6.1 The Embedding of Spotify

When questioned about their streaming environments, 87% of interviewees said that they streamed Spotify in the background while they were focused on other tasks that were appropriate for accompaniment from streaming. Examples of this included users streaming Spotify during work, studying, exercising, socialising and in other more niche environments. In reflection of the previous literature surrounding music streaming, these modern findings strongly signify that Spotify has continued to evolve its reach as a platform and successfully embed itself into the everyday existence of users, enriching the activities which they carry out in their daily lives (Hagen, 2016; Morris, 2020; Katz, 2010; Spilker, 2018; Johansson, 2017). These findings prompt both negative and positive viewpoints. This everyday streaming could suggest that Spotify has reduced the full impact and experience of music, causing it to become a utility that is fused into the everyday life and a routine user expectation. In contrast, it could be

positively viewed that Spotify's effective forms of access and usability has catapulted a digitally intangible version of music into even further importance, by taking a position in the everyday life of streamers with an ease of convenience that physical mediums fail to achieve.

5.6.2 Navigation of the Spotify Interface

In examining interviewees' responses to questions about their navigation of the Spotify interface, these qualitative findings detail several differing approaches in how interviewees navigate Spotify when searching for music.

It was found that the majority of users preferred to actively search the platform in an autonomous, direct, manual style, instead of relying on the recommendation and discovery features offered by Spotify. Instead, 74% of users opted to use the platform as a giant catalogue rather than their tool of discovery; these interviewees would discover music that they enjoyed outside of Spotify and then utilise the platform as a place to find and save the track. As previously established within different sections of my research, Spotify places a lot of focus into personalising the user listening experience through playlists and other features. However, these qualitative findings show that users who did utilise the personalisation features of Spotify mainly consumed the Daily Mixes playlists for their recent listening, as it was found that convenience played a large role in their interactions. This evidence, alongside excerpts from interviewees who rejected of the personalisation features showcases users who prefer to actively reinforce their own tastes and notions of a musical echo chamber. It was also noted that very few of these interviewees entertained the seasonal or novelty personalisation features.

This combination of evidence also points to the conclusion of the existence of what I call 'rebellious users', who ignore encouraged practices in their need for self-direction and autonomy in a technologically deterministic era of listening. The existence of these users actively challenges previous scholarly works that only position users as neutral, interactive consumers of these platforms, creating a new layer to the dynamic of the user-to-platform relationship (Liu, 2013; Hagen, 2016; Wikstrom, 2020; Werner, 2020). This also raises questions around the true popularity of the numerous personalisation and discovery features which Spotify heavily invests in.

5.6.2.1 The Position of Music Genre (Revisited)

In addition to these lines of enquiry, interviewees were asked how they felt about the themes that Spotify used to present music, and if they ever searched for music by genre, or engaged with Spotify's genre-themed playlists. From these answers, I found that a small majority of users engaged with music genre searches and playlists, but irregularly, due to disappointment with

the lack of accurate representation of their favourite genres within Spotify's playlists. Instead, users preferred to adhere to self-led search practices in favour of the aforementioned functionality and convenience that it lends. By viewing these opinions in reflection of the genre-based literature featured in Chapter 2, this result was understandable, as the concept of music genre is a subjective one, meaning that individuals will always hold slightly different interpretations as to what makes a certain genre, therefore Spotify struggles to satisfy all expectations when operation on a global scale (Rockwell, 2012; Negus, 1999; Holt, 2007). This qualitative evidence signifies how the contextual concept of music genre remains a challenge for the platform to fully perform in the subjective eye of genre communities.

5.6.3 Attitudes Towards Playlist Creation and Sharing of Music.

As part of this chapter, I asked users to describe their level of engagement with regard to playlist creation and categorisation. From these qualitative answers, I thematically identified that user activity could be broken down into three levels. This variation signifies that Spotify embeds flexibility: encouraging users to engage with music at whatever intensity that they deem personally appropriate with seemingly no restrictions or limitations. The combination of these qualitative findings aligns closely to the three specific circumstances identified by Hagen (2016) which are critical to the success of streaming: music abundance, social network structures and intangibility. The findings from my interdisciplinary research add to this foundational work, by showing that the facets of flexibility, accessibility and convenience are also supporting Spotify's continuing retainership of users, with interviewee answers signalling an appreciation for the on-demand access and control which they hold as users.

Interoperability was also found to be a driving force in the sharing of music, especially among users who actively expressed their music tastes with ease by sharing Spotify links to social media platforms. When exploring this sharing activity on social media further, it was evident that functionality was a clear facilitator, similar to the aforementioned ways social media makes music discovery so popular with Spotify users.

This combination of empirical evidence and reflective literature demonstrates that users of Spotify are driven to engage with the platform in manners that streamline outputs for their listening benefit and convenience, regardless of subscription type. The flexibility that Spotify provides as a platform is taken advantage of by users as shown by the variations in level of engagement in users' searching, listening, categorising, and sharing. The lack of enthusiasm and consistency amongst interviewees with regards to personalisation and thematic searching, showcases both the expectations that users have of Spotify as a provider, and the challenges which Spotify faces as a platform in the modern phenomenon that is the attention economy.

The infusion of intangible music into the everyday lives of consumers, through the use of Spotify, has arguably empowered committed users to develop a 'luxury-to-utility' mindset, with access and convenience delivered on an immeasurable scale. The presentation and analysis of these findings raises important questions to my research around the impact that this saturated listening may be having on users and stakeholders of the wider music industry.

Chapter 6 Assessing the Impact of Spotify Through Users' Understandings

In Chapter 5, I partially addressed my second research objective by analysing the qualitative experiences from twenty-three Spotify users, exploring how they navigate Spotify to facilitate their music listening. I examined interactions, habits, and opinions of the platform at key stages of the music streaming journey, starting from the moment of account choice, and finishing at the external practice of music sharing. From these answers, it was found that a number of Premium and free account users were driven to engage with the platform in manners that provided a streamlined output for their listening benefit and convenience. While this exploration successfully addresses the first half of this research objective (as detailed in Chapter 3), the latter point of this objective – how users' engagement with Spotify has impacted their views and treatment of music – remains to be addressed. This assessment of impact is an imperative component to my research aims, as it will provide insight into not only the nature of Spotify's impact on users, but other entities that are affected, and what effects may benefit from future research.

In the first half of this chapter (sections 6.1 – 6.3), I explore user-based impact and awareness by delving further into the reflections of interviewees around their perceived impact of using Spotify platform, and their awareness of broader issues around music streaming as a practice. These lines of enquiry are key to comprehending the extent of any impact that using Spotify may have had on the user's musical experience, enabling deeper discussions around how ways the interviewees feel the Spotify usage has impacted their physical and emotional relationships to music, in addition to analysing their comprehension of modern issues specific to music streaming, such as the concept of musical ownership.

Following this investigation into interviewee impact, it was also important to investigate if interviewees had any awareness as to how their use of Spotify may be impacting other stakeholders. As a result, in the second half of this chapter (sections 6.4 - 6.5), I steer discussions to focus on the interviewees' reflections around artistic impact. In response to these conversations and their resulting answers, I explore the intersection between user awareness and where their boundaries lie as subscribers by asking interviewees a final reflective question: what specific factors would cause them to stop using Spotify?

In earlier chapters of this thesis, I identified that the intangibility of music streaming platforms has not only changed a number of practices for consumers but has also affected many of the logistical and social processes within the music industry, impacting the artists who utilise the

platform as a consequence. Additionally findings featured in Chapter 5 demonstrated the blurring of boundaries between what it means to be a user, a consumer, and an artist in this digital era, establishing that this extreme connectivity plays an important role in what will be the future of music production, distribution and sharing. Therefore, in order to comprehend the musical experiences of those who use Spotify, the voices of users who identify as musicians must be considered in their creative identities. As a result, section 6.6 of this chapter briefly introduces insights into the musical experiences of the interviewees who identify as active musicians, exploring their contrasting experience to users and issues that they face in relation to music streaming.

6.1 The Impact of Spotify on Users' Listening Experiences

Firstly, I asked the interviewees to consider how their usage and facilitations of Spotify have affected their listening practices in positive and/or negative ways. It was notable that the majority of users gave more than one answer, demonstrating an engaged awareness of their own practices.

This section explores six significant themes of listening impact as a result of the interviewees' answers, consisting of a distribution of positive and negative examples. Each of these points incorporates discussion around their relation to previously mentioned literary concepts.

6.1.1 Positive: Listening and Discovery is Streamlined.

In reflecting on Spotify's impact, fifteen users identified that Spotify had made the task of music listening a much simpler process. Keywords such as "convenient", "ease", "easier", "flexibility", and "access" were used to describe how the platform has removed logistical barriers to the task of accessing and consuming music. These keywords provide positive reinforcement to the user experience and greater understanding of the practical difference that Spotify has made to the processes of musical access. Several interviewees provided additional context to their answers, many using the comparison of physical music formats to highlight the obstacles and conditions which have changed:

"I don't need to go to a music store to then flip through artists and CDs to then go "oh yeah, this is the album". I can just go "type search, click, done!". And I can do it either in work, at home, or at the gym..." – User #1

These keywords, in combination with interviewee comparisons to previous conditions held by other music formats, show that these users strongly value ease of abundant access with the additional benefits of efficiency and simplicity in their musical experiences. This qualitative

evidence also relates strongly to the ideas of “post-fidelity” raised by Katz (2010, p.164), as users are experiencing an augmented musical experience in order to reap the benefits of vast and constant access.

An example of post-fidelity consequence is the variation in audio and metadata quality in music streamed online, making audio experiences more unstable than what was found in earlier physical music formats (Toulson, 2020; Scarrott, 2022). The use of digital audio compression by streaming services allows for the high-speed transmission of tracks from cloud servers. However, the use of audio file formats is not standardised across streaming platforms, and therefore forms another part of the ongoing market competition between streaming companies, with some platforms creating exclusive audio file formats (e.g., Apple’s Advanced Audio Coding (AAC) or Apple Lossless Audio Codec (ALAC)). Each of the formats vary in their different features, including whether they are:

- ‘High-resolution’ or lower quality sound.⁴¹
- Compressed or uncompressed.
- ‘Lossless’ or ‘lossy’ which relates to the quality lost in streaming due to compression (Fries and Fries, 2005).

Spotify utilises two primary hi-resolution audio formats: Free Lossless Audio Codec (FLAC) and Wave Form Audiofile Format (WAV) (Toulson, 2020). While both of these formats are high-resolution and therefore have better audio quality than the CD, WAV’s uncompressed nature makes the files much larger and does not offer good metadata support (such as the information previously mentioned in section 2.5.3.1) which is useful within such vast musical catalogues (ibid.).

6.1.2 Positive: Music Tastes are Broadened with Ease.

A second positive example of streaming identified by Spotify users was their seemingly unlimited ability to explore and interact with new music at a much higher rate. Many of the interviewees explained that Spotify’s massive interface and catalogue of music and has allowed them to explore and interact with music which they would never have experienced or considered listening to before:

⁴¹ In 2014 high-resolution audio was formally defined by record labels in addition with The Recording Academy, Digital Entertainment Group and Consumer Electronics Association as “lossless audio that is capable of reproducing the full range of sound from recordings that have been mastered from better than CD quality music sources” (Hayman, 2014) .

“I think sometimes you don't know what you like, or you can look for things and think “Oh, that's interesting, that's different”. I listen sometimes to music that I wouldn't have ever contemplated listening to and wouldn't have gone and bought” – User #11

Given the quantity of music available on Spotify, this finding is significant, as the evidence presented in Chapter 5 reflected that a substantial portion of users did not interact with the personalisation and discovery features offered by Spotify. These conflicting data points demonstrate that while users do appreciate the abundance of musical content on Spotify, they choose to independently interact with this content in their own direct ways that are autonomous to their listening styles. This combination supports my previously raised concept of the rebellious user (detailed in section 5.4.1.2), who curates and directs their own version of music discovery against the intended layout and user designs of Spotify.

This positive impact around musical exploration and access was also justified from an angle of financial benefit, with interviewees again providing comparisons towards the exploration of music on streaming platforms in contrast to using physical music formats and digital downloads:

“...it gives you that breadth and depth and ease of exploration... Probably 10 years ago, if I wanted to listen to all these songs, I'd have to pay for them and buy every individual song... I'm now weighing up; is it worth the 79p for that song, or that £6 or £8 for that album? From a consumer perspective, it's taken away those barriers and you're no longer justifying the expense of listening to different music” – User #17

This statement from User #17 demonstrates that Spotify subscriptions are appealing to users due to the certainty which is provided by the financial arrangement: users pay a monthly fee, and they receive unlimited access to the music hosted on the platform. This level of certainty provided by the subscription relates to findings from section 5.1: where users showed appreciation of Spotify's value for money, in addition to the perceived aspect of user fairness. This also reinforces the popular concept of musical renting in place of the traditional practice of purchasing and owning music (Katz, 2010; Hagen's, 2016).

6.1.3 Positive: More Musical Engagement with Peers and Family

A final example of the positive effects identified by the interviewees was the opportunities that Spotify gave them to facilitate connection with family, friends, and others: through the activity of listening, collaborating on playlists, and sharing music to social media platforms. An example of this is User #13's enjoyment of how Spotify provides middle ground for all members of their family to come together and connect.

“I think also that one thing that Spotify does is that it sort of makes them [family] also come together on something because they say they very seldom have music that they all like (all three of them), and then we all listen to that together. So, they have some sort of communal motive. They always have some music like two or three songs that they presently are all into that we’ll all listen to as the whole family.” – User #13

This example again reinforces Wang’s (2005) established list of identified user needs, as it could be concluded that these additional modes of collaboration and connection add both personal and economical value to the lives of Spotify Premium users. However, it is notable that users of free Spotify accounts are not able to enjoy the same levels of connection in their listening experiences. Therefore, it can be argued in this example that there is the capacity to place Spotify in both theoretical encampments of SCOT and technological determinism, based on the subscription of a user/interviewee. An interviewee with a Premium account is utilising the platform as facilitator of both social and economic benefits, whereas a free user faces a technological barrier towards connection, based upon the limitations put in place by Spotify’s pricing structures (Spotify Support (a), 2023).

6.1.4 Negative: I Value Music Less/Not as Enjoyable

In addition to these positive social, economic, and musical impacts, there were those who identified specifically negative listening consequences of using Spotify. One issue raised by a number of users was the resulting feelings of depreciation that they’ve grown to have towards the music that they listen to through the platform. A number of interviewees reported that they took the music for granted due to the constant access and abundance at their disposal. The example given by User #8 brings into question the presence of value when it comes to intangible, readily available files – using a comparison given to the higher levels of financial, storage, and physical care that was required of a physical CD:

“I’ve thought for a long time that it makes me value music less. That sounds terrible, but there’s something about owning...I remember owning a physical copy of a CD... you would go to the store, and you actually paid money to have the CD. And it’s very special, but I feel like because everything is now at your fingertips, now I can just listen to a song over and over again” – User #8

This is a thought-provoking insight, as it was conveyed in section 6.1.1 and 6.1.2 that the absence of physical and financial conditions associated with listening to physical formats was a benefit. These contrasting points, where users enjoy the streamlining of access but feel the need to utilise examples of physical mediums, signals a loss of connection and value to music, raising important questions with regard to the real future of music and the various formats

which are used to embody its distribution. However, this contradiction could be explained by Kjus (2016), who states that the introduction of new music media almost always affects the observed qualities of the old ones in different ways, including emotions of nostalgia and melancholy (ibid.).

It was also clear that some interviewees like User #20 have even begun to measure musical value differently as a side-effect of using Spotify for both listening and work. As a working professional within the music industry, User #20 shared their recent self-awareness around how they had begun to subconsciously judge artists on Spotify. The interviewee explained that they had begun to notice their judgement of artists being constantly influenced by the numerical streaming information found alongside track information on an artist's Spotify page.

“If I go to an artist profile now and I don't see a million streams on one of the songs, I'm thinking “OK. Is it a new artist? Are they not popular? ...instantly my head goes to that place where you rate them based on numbers... I'm sure that for some people, it helps them rank artists based on success, and that also has a bias towards like whether or not you find their art good the first time you hear it.” – User #20

While this measuring of artist worth based on streams aligns with User #20's profession as an A&R Manager, their professional insight into how others are also likely to be measuring value this way, showcases engagement behaviours similar to those witnessed on social media platforms. This acclaimed subconscious system of measurement being undertaken by certain Spotify users in their navigation of the platform represents another blurring of boundaries between these variants of digital platforms, as also previously described in section 5.5.3 of Chapter 5.

6.1.5 Negative: Less Patience, More Track Skipping.

“So, I think this is the major downside for me...it has made a lazy listener” – User #15

When asked how using music streaming platforms have impacted their perceptions and values of music, many users identified that they have become less likely to experience music as an isolated event and are also less patient in their music listening habits. Several users directly linked their use of music streaming as their reason for losing patience more quickly and frequently skipping tracks. An example of this is User #16's explanation that that their appetite for music is so satiated as a user – due to the quantity of music available – that they find it impossible to be patient and listen to full tracks when using Spotify.

“I’ve found that I will listen to a song for a bit, until I’m like “great I’ve had my dose of that song” and then I’ll skip it. I do skip songs more and a lot quicker, even if I like the song, it’s like having little samples of bite sized desserts, you know?” – User #16

Although the sample of interviewees for this study is small, this identified behaviour is not isolated to these specific users and is widely recognised in the music marketing sector that skip rates and indifference are some of the highest threats to online engagement (Wikstrom, 2020).

User #20’s experience and research as an A&R manager, reinforces this:

“Basically, you want to keep skip rates at the lowest possible number... “something needs to happen within that first 30 seconds” ... that’s the only way you’re probably going to get the majority of your streams, so you want to make that first 30 seconds so impactful that people don’t skip your song and they stay tuned to it... if you don’t catch them in that minute, they’re gone.” – User #20

This excerpt from User #20’s experience provides insight into one of the many priorities of musical creators in the prominent era of music streaming, and also highlights the pressure on musicians to ensure their tracks stand out in algorithmically sorted modern music streaming catalogues. These requirements relate to benefitting user sharing practices on social media engagement, where snippets of songs must be catchy and short in order to be embedded into various types of social content for users to post (Bonini et al., 2019). The complexity of these conditions and their entanglements with other social platforms summarises by the ongoing platformization of culture, where artistic success is becoming more progressively defined by numerical accolades. These examples of user experience alongside the blending of platform practices raises questions around the future practices of music creation and engagement, and what this will require from both artists and consumers.

Within the same vein of experience impact, some users confessed that they were more likely to skip tracks due to their awareness of how their listening choices would influence the Spotify algorithm. User #10 explained that they actively considered their future algorithm recommendations and how it would be influenced by their listening and browsing interactions, causing them to be more hesitant in their exploration:

“If I’m searching for music, I’ll be aware that it affects what I’m going to be recommended later. Which also makes me more reticent to listen to music, which I don’t like, if that makes sense. If I think I’m not going to like a track playing “this” then I don’t want to listen to a bunch of it... because then it’s going to seed my algorithm with a bunch of stuff I don’t like...” – User #10

This scenario described by User #10 introduces a new type of personal impact in music listening that pairs with the ongoing evolution of personalisation. In reflection of previous types of music formats, this phenomenon adds a new invisible condition to a user's music experience on streaming platforms. This is an important new development as it signifies the user's understanding that their listening choices are no longer fully their own (should they engage with personalisation recommendations). This also portrays the deterministic aspect of such technologies which are able to shape and influence listening trajectories, regardless of user's intention. However, the awareness shown by User #10 and the previously exhibited examples of rebellious user behaviours in Chapter 5 confirms that there are users who acknowledge of the influence of Spotify's technologies, and are in response, adjusting their own habits in attempts to regain autonomy.

6.1.6 User Impact Summary

From these findings, it is evident that Spotify, as a platform, has provided users with a number of advantages towards their music listening practices. With regards to these positive results, it is evident that the concept of access underpins many of these benefits, including the streamlining of access to an abundance of musical content, the ability to search music on a broader scale in discovery efforts, and the opportunity to share these experiences with others through access and operability. It is also demonstrated that these positive impacts are the result of two or more operational factors working together to facilitate these user experiences.

However, it can also be seen interviewees' experiences that a number of new issues have arisen in tandem with the use of Spotify. Whilst users enjoy the economic value of Spotify and its plentiful access to musical content, they find that their regular use of streaming has left them valuing music on a lesser scale than they previously did when listening to other music formats. The intangibility coupled with the quantity of available music also has users feeling less patient with music listening and more likely to skip tracks regularly. This act of track skipping is also becoming encouraged in users who are aware that their listening will affect their future personalised recommendations, promoting a subconscious tailoring and hesitance in listening amongst some users. Unlike the previously noted positive effects, these issues can be construed as more personal issues which relate to the wants and needs of individuals.

In reflection, these issues partially contradict the findings presented in Chapter 4 and Chapter 5, where interviewees previously shared appreciation for the convenience and interoperability of using Spotify, along with its value for money, and its access benefits. Also evident from this empirical evidence is the ongoing entanglement between music streaming and social media

engagement practices, ultimately resulting in the ongoing platformization of music and culture, where success is subject to the effects numerical readings and algorithms (Morris, 2020).

6.2 User Awareness of Broader Streaming Issues

As previously mentioned in Chapters 4 and 5, Spotify provides paying users with twenty-four-hour rented digital access to millions of musical tracks, where they can take part in a variety of activities: creating their own limitless number of playlists, collaborating with peers, and engaging with new features as and when they are released. Paying users lose access to their tiered privileges from the moment they cease paying for the Premium, and all users lose complete access when they delete their account and the Spotify application (Spotify Support (b), 2023). This tiered structure of value is similar to that found in streaming services built around television, film, e-books, and audiobooks, and as previously mentioned in Chapter 2, the make-up of these platforms consist of human consumers, organisations, and non-human entities such as hardware and streaming software (Colbjørnsen, 2021).⁴²

As a result, in this section, I questioned all interviewees (non-musical users, identified musicians and working music industry professionals) around the topic of control, and explored sentiments around arising broader related issues, such as music ownership and renting access from streaming platforms. Following this, I asked the interviewees to elaborate on any personal concerns they had with using Spotify or music streaming, which led to discussions around their awareness of the challenges faced by artists.

6.2.1 The Concept of Music Ownership and Music Renting

When asked for their thoughts on the concepts of musical renting and ownership, the overall attitude from interviewees was one of neutral acceptance - from both identifying musicians and consumers. There was a general acceptance among users that adhering to the processes of Spotify as a service was consequently valuable, as it allowed them to conveniently retain all of their favourite music in one place for listening, interaction, and sharing. Several users explained that they enjoyed the flexibility of ownership, and that they did not have to commit to ownership of a musical track simply because they liked it in that moment. If users stop listening to certain songs which they had placed previously into their playlist(s), they can simply remove unwanted

⁴² While Artificially Intelligent (AI) artists do exist, the level of socio-technical complexity and detail required in discussion around these entities does not align with the scope of this current research and would benefit from further examination in future studies around music streaming platforms and authenticity.

tracks from their rotational playlist(s) with ease. These confirmed findings around music consumption demonstrate that consumers are adopting more fluid mindsets towards their listening habits and the idea of music consumption which echoes the previous predictions of an industry where convenience, personalisation, and access prevail in the face of decreasing physicality, ownership, and storage issues (Katz, 2010; Gioia, 2019).

Additionally, when asked about the decreasing tangibility of music, it was notable that even participants who identified as musicians – whose creative pursuits are most potentially affected by this collective adherence – agreed that there were great benefits to utilising a streaming platform such as Spotify due to these new levels of flexibility and the distinct lack of duty towards physical collections:

“...it's not even just about what the worth of things are anymore, it's the possession and people's understanding of what they possess... I'm okay with not owning my things; I'm consuming them in such a way that the ownership is not important to me” –

User #2

However, in contrast to this neutral mindset towards their own streaming habits and musical ownership, #User 2's attitude markedly changed when discussing musical ownership across generations. In reference to their collection of physical DVDs and CDs, User #2 expressed concerns around the lack of possession in newer generations, implying that this is potentially damaging, and that younger users are missing out on knowing the important value of owning music:

“I have so many great memories of watching DVDs growing up, buying them, and really getting engrossed, and I can't bring myself to get rid of the ones that I have. It's the same with a bunch of CDs. So, we're having a generation coming in post-2006/2007 that have no concept of that, there is zero concept of it...” – User #2

This insight portrays an important collective impact of streaming that reaches farther than the individualistic experiences previously mentioned in section 6.1 and relates to the aforementioned discourse around the requirements and conditions of musical formats. For User #2 to use their DVDs and CDs, they had to own additional devices in order to access the content on the disks (e.g., a CD player or a DVD player). This insight, in reflection of Hornby's (1996) reinforces the historical importance of music collections, symbolising a contrast in modern attitudes. Many users no longer wish to attach their identities to specific artists or tracks collections, due to the abundance of music that is constantly on offer through music streaming platforms like Spotify. However, the ongoing interest in physical mediums reported in Chapter 2 makes clear that the choice to utilise a streaming service in place of a physical

medium lies in the optional control and lifestyle choices of the user and consumer (Kemp, 2022). This demonstrates further that user listening experiences have evolved to reflect advancements in lifestyle changes, and denotes a socially driven adoption of convenience, underpinned by a deterministic consequence of streaming's effective streamlining. However, this raises the following question: how far does that need for convenience stretch according to user opinion?

6.2.2 User Awareness of Artistic Impact

At several instances, my research has demonstrated that platforms like Spotify provide a number of roles to different stakeholders, with boundaries blurring due to the inter-connected state of digital platforms. Therefore, it was important to my study to understand the levels of awareness that users held as to how their use of Spotify may be influential to broader issues encompassing streaming technologies.

In response to being asked if they had any concerns surrounding their use of the platform, many users answered reflectively with a blend of societal and ethical awareness, alongside self-justification to their use of Spotify. One prominent topic which arose in response was the perceived consequences faced by artists and the wider music industry, which had been receiving media attention at the time of the interviewing stage of this research in 2021 (as detailed in section 2.6.1).

Interviewees were encouraged to elaborate on their thoughts regarding recent public commentary around streaming and artistic impacts. This section acts as a brief introduction to this important topic of fairness within the arts, by breaking down these interviewee responses and reflecting on potential future research.

6.2.2.1 Defensive

Following their declared knowledge of the issues surrounding artists remuneration, some users chose to immediately defend their use of the platform. User #1 shared awareness of the need for social involvement in addressing issues such as poor remuneration in the arts. However, they concluded that the issue will not resolve because the value for money is too great a draw for users to advocate for change:

“If people truly wanted all the other the artists to be paid fairly, or what they actually should be earning, then everyone could boycott Spotify, but we don't want to...” – User #1

This cynical opinion of society suggests that there is an overall collective acceptance the value for money is too great a feature for society to collectively miss out on, and that the resulting struggle faced by musicians was acceptable. Interestingly, this idea of societal acceptance and agreement was reflected in another user's answer idea that musicians should already be aware of the consequences of their actions in using a streaming platform to distribute their music. User #7 claims that although they feel bad for artists, musicians should already be aware of the challenges which society places on artistic fields, including musicians and music. This user also states that artists should expect people to illegally download their music.

"I would like to think that the artist is aware – or they should be aware – of what they're using and what they're putting their music and stuff on, and they'll know that people use it and illegally download and all of that rubbish. I do feel bad for them." – User #7

User #4 also explains that while they have concerns, musicians have a responsibility to keep up with the evolving pace of society and technology:

"I suppose my concern would be "am I slowly killing the industry through using Spotify instead of buying albums"? But then at the same time, should people – artists and the industry – actually be moving with the times better?" – User #4

This thought pattern was not isolated to non-musicians/consumers, as there was evidence of artists such as User #16 also utilising the platform as part of their consumer role and feeling guilty about contributing to "the problem" around artist remuneration.

"I try to buy albums on Bandcamp and things like that. But I know that realistically a lot of the time, I don't. I just listen on Spotify and I'm contributing to the problem..." – User #16

These reflections can be categorised as both defensive and reluctant, with users understanding the opportunity which exists to change the treatment of artists but refusing to act due to their advantages as listeners. Those such as User #7, instead choose to place full responsibility upon musicians. From these findings, this specific group of users – excluding User #16 – lack empathy as a result of not wanting to risk their perceived benefits as users within the streaming landscape. This type of response challenges Morris' (2020) prediction that users as a collective are not aware of the bigger picture and effects of streaming platforms like Spotify. On the contrary, these excerpts show informed users that are focused more on their own advantageous position (which boasts benefits similar to the user needs described in Wang et al. (2005)), rather than a balancing of circumstances for both parties (Spotify Support (a), 2023).

6.2.2.2 Unaware

In addition to defensive stances, there were several users who admitted to taking more of an avoidant approach in their awareness of artists' issues, going so far as to completely avoid engaging with the information so that they did not have to deal with any guilt around the potential impact of their actions in regularly streaming:

"When it comes to ethics or morals, there's a lot of stuff that I don't know and I haven't actively looked them up because if I do and I don't like them, I will have to stop using Spotify, which is a huge inconvenience." – User #15

Other users like User #18 explain that they haven't given much thought to the experience of other stakeholders within the music industry, due to the alternative ways they can obtain music, should their access to Spotify cease:

"...I don't know how much they pay artists and how it compares to anything like streaming? Although, it's probably better than when I downloaded songs from some dodgy Russian website... For example, if I stop paying for Spotify, then what? I wouldn't worry about it much" – User #18

This collection of answers again implies a collective belief that there should be an acceptance and responsibility on the part of musicians, as the balance of musical access and privilege is tipped in advantage of users. These answers also showcase the denial fronted by some users who wish to remain ignorant of issues so that they can continue to enjoy the benefits of Spotify.

Interestingly, these attitudes reflect past issues faced by musicians in the more traditional structures embodied in the music industry as shown in Chapter 2, where musicians had notably less control over the trajectories of their work (Burnett and Weber, 1989; Leyshon, 2007; Morris, 2020). These findings, in combination with academic literature on music industry evolutions and public commentary, convey that Spotify creates a socio-technical barrier between the user and artist, allowing users to consume music with a plethora of benefits and an avoidance of guilt.

6.2.2.3 Supportive

In contrast to the two previously identified attitudes, several of my interviewees stated a recognition of the issues facing artists and explained their desires to support those within the industry. A number of users voiced their desire for a way to support artists further – but in a way that was condensed into the Spotify platform, making clear the desire for support, as long as it

is convenient and on the user's terms.⁴³ Other users described their intentional purchasing outside of Spotify use –providing financial return for the music which they were consuming. One of these methods included purchasing music from the popular website Bandcamp, where artists can sell music and be directly remunerated by supporters. User #21 went on to clarify that they explicitly used Spotify as a testing platform for songs, and if they enjoyed the music, then the artists were further supported through a direct monetary purchase. This user's conduct also included the automatic purchasing of merchandise and music to support musicians who they knew or were friends with.

"I pay for stuff anyway. I don't have to pay for my friend's album that I recorded on, but I'm going to. I don't have to pay to watch him play music, but I do, because I want to support him. So, I find things on Spotify and use it to try and to get more into their music, and if I enjoy it, then I'll probably buy [merch/CDs etc] and support the musician" - #User 21

This behaviour of using of Spotify as a testing platform aligns with that of User #23, who in section 5.2.3.2.1 also used the platform to test out music before they bought a physical or digital version of the music for their collection(s). This alignment in behaviour showcases the presence of a regard for ownership and supporting artists among these interviewees due to prior knowledge of the effort taken to create an album. However, one notable aspect of the demographic of this group of supportive users was that they were more likely to be musicians themselves, which communicates a shared understanding of the struggles faced by those looking to create and distribute in the modern industry. Through the scope of SCOT, these actions of supporting artists outside of streaming suggests that for these users, Spotify plays the role of a rented testing platform to aid in discovery, rather than inform and form the entirety of the user's listening experience and the artists' only remuneration.

By combining these interviewee insights with reflections of the 2021-2023 media coverage of these remuneration and equality gaps (as depicted in Chapter 2), it is clear that there are still more deliberations to be held around the balancing of stakeholder experiences that Spotify and other platforms provide for both users and artists. However, this introductory section has also shown that these attitudes also foster further lines of important questioning into the attitudes of music streaming users and the treatment of stakeholders within the Arts and Humanities, who are being caught up within an intense wave of technological progression.

⁴³ In

6.3 The User's Commitment to Streaming

Following my exploration of the interviewees' perceived impact on their own listening and investigating their stances on the impact of artists, I asked them to consider what specific factors or events would cause them to cease using Spotify. The purpose of this question was to build further understanding on what the interviewees really valued about Spotify. It was also important to my research to understand how committed the interviewees felt to Spotify, and the factors that solidified their feelings.

Therefore, this section briefly breaks down the leading potential factors that would discourage interviewees from using Spotify, and also explores two notable responses which make clear the varying levels of commitment that are shown to the platform.

6.3.1 Potential Reasons That Would Stop Users Streaming on Spotify

When questioned, the users provided a range of answers. As outlined below in Figure 32, it can be seen that the two leading factors which would discourage users from streaming are a change in price (8 votes), and if Spotify was found to be conducting itself immorally through bad publicity (5 votes).

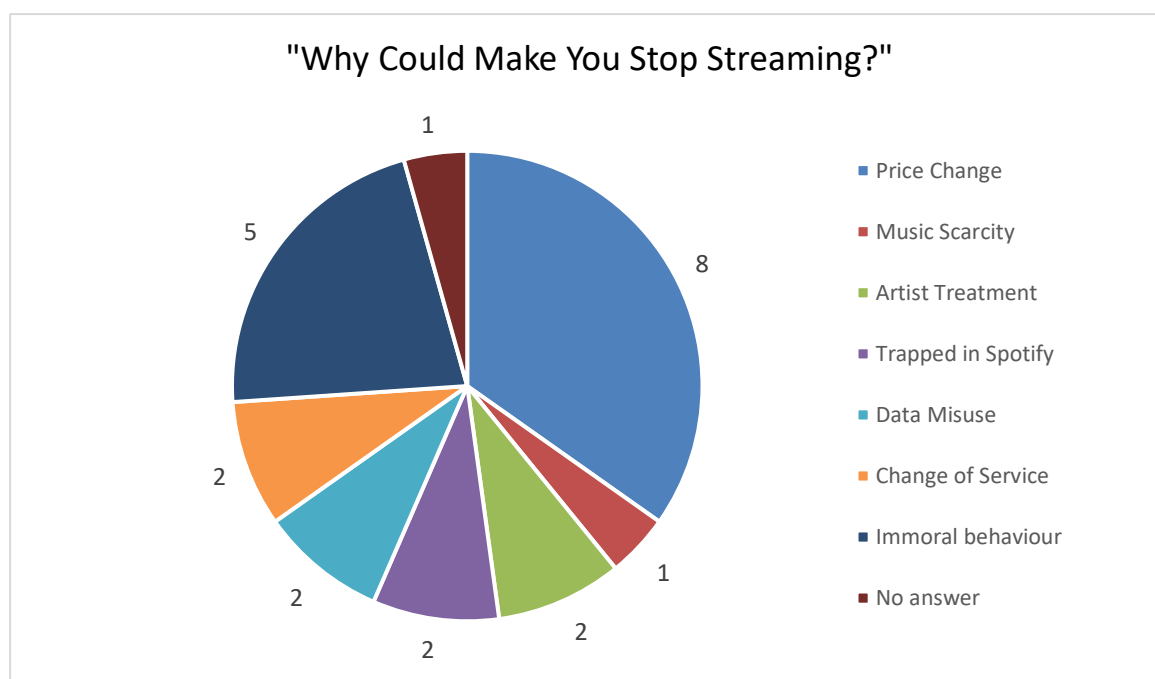


Figure 32: A pie chart showing the distribution of interviewee answers in relation to what would make them stop using Spotify.

The remainder of answers were more evenly spread in distribution: covering ethical topics such as data misuse and the treatment of artists, alongside more personal reasonings such as a scarcity of enjoyed music, and a change of service that was no longer appropriate.

6.3.1.1 A Change in Price

In response, eight users stated that they would cease their use of Spotify, should the platform increase their prices to a range that they no longer deemed as appropriate to pay for musical access. It is notable that no user specified a specific price limit, leaving this rather open to interpretation, however, it is likely that users understood that the notion of pricing would be subjective for each user.

“I mean, there's obviously a price issue, right? If it became like £100 a month then you'd cancel it, but if it only went up by like £2 you wouldn't. I don't know what the golden number is but there is a possibility of a price thing.” – User #19

This answer is interesting in how it signifies interviewee attitudes towards what is acceptable in valuing access to music. This showcases how adaptive users can be in the effects of new technological developments, and their resulting adaptation to the new normal in financial requirements for music listening (Morris, 2020). It is also possible that this viewpoint in users will be financially tested by streaming platforms like Spotify in the future. For example, in 2023 Spotify raised their subscription price across all Premium plans for the first time in a decade by approximately £2 – in response to several inflation related costs (Naomi (b), 2023).

However, the report produced by the CMA (2022) (previously mentioned in Chapter 2) made clear the financial benefits of users in the user-to-platform arrangement. This reporting, taken in combination with interviewee answers around their appreciation of access, flexibility, and the habitual embedding of Spotify into their routine (as described in Chapter 5 and section 6.1), leads to my prediction that users will not cancel their subscriptions hastily, due to the powerfully integrated notion of musical convenience and access that Spotify brings to their everyday lifestyles.

6.3.1.2 Immoral Behaviour

“So it would have to be that they screw up massively” – User #15

The second most voted reason that would stop users from streaming on Spotify was if they were to find out that Spotify had been conducting immoral behaviour that had garnered negative public or media attention. Interviewee-provided examples of this included injustice in the treatment of artists, underhanded uses of data, or unprincipled uses of technology.

“I think the only thing for me would be if I saw that it [Spotify] was having a massive impact on artists, and they couldn't function – they couldn't treat it as a job anymore. Then I suppose that would be the thing that would put me off it.” – User #4

Reflectively, this answer is interesting, as these specific issues have been discussed by a number of the interviewees at varying stages, signifying the importance of user individuality, and the role that it plays in determining what constitutes as a moral issue. Therefore, these responses highlight a lack of awareness or the presence of intentional ignorance (as demonstrated earlier in section 6.2.2.2) among interviewees.

6.3.2 Notable Responses

When asked, a small portion of users declared that they had no response to this question due to either a complete lack of commitment to Spotify, or because they refused to ever stop using the platform. The following section briefly breaks down these two perspectives.

6.3.2.1 Full Commitment to Spotify and Streaming

For these specific users, the notion of stopping their Spotify streaming was impossible, as they felt completely trapped by Spotify being woven into their everyday life. User #12 provides several examples of activities which they couldn't carry out without music playing:

“I don't think at this point in time that anything would stop me using it. It's part of my daily life. I don't really think about embarking on a tour, workout, drive, or anything without music lined up. It's so utterly woven into everything I do. I'm just not used to silence anymore, even if it's something like sorting my laundry, which takes 10 minutes. I will put on a song first.” – User #12

Similarly, User #8 felt trapped in their usage of the platform, due to their intense level of engagement in monthly playlist creation, which they have diligently carried out since 2015:

“I kind of feel like I'm trapped in using Spotify because I have such a backlog and archive...it would take quite a lot I think, for me to stop using the service” – User #8

This creates a more sinister perspective of the championing of convenience and (seemingly) unlimited intangible storage. As found in section 6.1.1, to cease music streaming in this current landscape would result in listeners returning to previous methods which (as mentioned in previous chapters) is more costly and physically laborious to pursue and collect (Garofalo, 1999). User #12 also made it known that they were aware of the socio-technical and ethical discussions which surrounded streaming platforms, but that the individualistic benefit was too highly rewarding to switch back to previous methods of music listening and collection:

“...as the greedy user, I don't have any incentive to switch, and I love having it all at my fingertips... even though I know that it's not fair, I can't see an alternative which is as

convenient and as appealing to me as a user. So, there is not really any reason that Spotify would ever cease to exist, and people would ever stop using it.” – User #12

From these findings, Spotify has achieved the status of utility within the lives of certain users and is granted the same importance as other everyday requirements and tools. Whereas music used to occupy the status of luxury, these answers show that according to some, it has now confirmedly become a basic right in the life of the 21st century Western citizen.

6.3.2.2 A Lack of Commitment to Spotify and Streaming

Notably, one user did not supply an answer to this line of questioning, as they felt that they were not significantly attached enough to Spotify. In contrast to the users who gave very specific answers as to what would make them quit Spotify, and those users who would never quit streaming, User #17 made it clear that they would be unaffected by losing Spotify and would be happy to go back to previous methods of music consumption. They elaborated that they only utilised Spotify due to the ease and availability of the platform in its current state:

“If Spotify dropped off the face of the Earth tomorrow, I’d barely notice. I would just go back to “I bought the music; I like what I like, and I’ll listen to that”. In fact, the ironic thing is I probably have (at some stage for the majority) paid for those songs in some way, shape, or form on some other platform” – User #17

This nonchalance shown towards Spotify by User #17 is an example as to why the music industry is seeing a revival in certain forms of music mediums such as vinyl, CDs, and cassette (Kemp, 2022). Many, like User #17, who are grounded in their music tastes have often purchased the same music in other formats and retain these collections (e.g., User #2 and User #4). This attitude from User #17, although completely in the minority, hints at the bidirectional trends of music listening, as many of the users interviewed in this study have experienced listening to music on at least one other type of musical format.

6.3.3 User Commitment: Summary

From the answers provided, it is strongly evident that the majority of these interviewees are hesitant to part with their streaming subscription, with levels of attachment varying amongst users based on their volume of use and their desire for convenience. This hesitancy shows the effectiveness of Spotify’s integration as a platform, as according to interviewee answers, discarding their Spotify account would be impactful on the quality of their listening experiences and for many, their everyday lives.

The leading motivation for ceasing streaming implies that these users value economic impact over other issues which may be of moral or creative variety and additionally signify the importance that the role of user individuality and morality plays in determining what constitutes as an ethical issue and to what varying degree.

These findings are significant, as they signal the collective overview of these users' perspectives on important ethical and socio-technical issues. They are also meaningful due to the influence that comes from collective user opinions, in the ongoing efforts to find ethical, financial, and social balance for stakeholders within the intangible landscape of music streaming.

6.4 Musicians Reflect on their Spotify Experience

Thus far, my research focus within this chapter has been to understand the impact on musical experiences of users and who navigate the Spotify platform, and their understanding of broader issues around streaming. This has included discussions on the impact of artists due to streaming processes. Given the dual perspectives of 43% of the interviewees who identified as musicians alongside being Spotify consumers, it was important to my research aims to briefly explore how this instrumental stakeholder group has been impacted through the popular adoption of streaming. To understand this perspective is important, as these stakeholders' material play a key role towards the ongoing functionality of Spotify as a music hosting platform. By sharing their experiences, these interviewees aid ongoing academic efforts in creating a clearer understanding of the modern industry.

By inviting the musicians to share their experiences of using Spotify as a platform, I identified two primary issues which directly link and reflect on the previous themes within this thesis: remuneration and representation. As a result, this section firstly explores interviewee opinions and insights on the remuneration controversies surrounding streaming and how they feel it has affected the consumer's valuations of music. This is followed by reflecting on the contrasting reality of the Spotify interface and the back-end processes for musicians, and how issues arise in choosing accurate genre representation.

6.4.1 Opinions Around Remuneration Controversy

“In a way I think it's sad because I think people don't value music. They put an emotional value on music, but they don't like to pay for it. Which is why we're in the situation that we're in now...” – User #16

Remuneration from streaming platforms has been a topic of ongoing discussion, with the initial focus reaching its peak in 2020 – 2021 through enquiries and reports from government

committees, due to numerous public campaigns (DCMS, 2021 (a); DCMS, 2021 (b); CMA (2022); Ahmed, 2023). These movements argued that artists were being taken advantage of through cruelly structured algorithmic pay rates and that the balance of streaming had tipped too far in the user's favour. This attitude was reflected by the majority of musicians, including User #9, who expressed that the unfair remuneration and impact was due to Spotify's payment system:

"I do believe that as an artist, the royalty scheme doesn't seem to work or remunerate artists correctly. I know that because my streaming figures are quite healthy as an artist but the financial side of it is negligent and the amounts that are coming through per stream seem ever increasingly smaller. That's really difficult, as someone with a large family, who is trying to sustain, and have a healthy music career. Digital streaming platforms have almost got in the way of that..." – User #9

This perspective is not uncommon, with many artists like User #8 choosing to decline in uploading their music to the platform due to concerns including upload fees and other remuneration worries. These experiences signify an important area of future research into the availability of transparency and support for independent musicians who are unsigned or not signed to larger, more commercial labels, and their navigation of platforms such as Spotify.

However, these remuneration issues are not isolated or revolutionary to the modern music industry and streaming. Furthermore, the traditional music industry structures, as reflected in Chapter 2, showcase similarities in processes and the number of actors which still are involved in the musical revenue process (e.g., artist and label services, DIY services, managers) and the splitting of money for distribution fees, and credits (Leyshon, 2001; Skoro, 2021; Vonderau, 2019; CMA, 2022). Therefore, from the previous findings which show the financial benefits, ease of access, service convenience, and flexibility experienced by consumers, it is evident that Spotify remains balanced in favour of the user, and other stakeholders positioned higher up the music value chain (CMA, 2022).

6.4.2 Dissemination Over Remuneration

However, it is notable that not all of the interviewed artists expected high levels of return from Spotify. In their interview, User #21 declared that expectations around Spotify should be realistically lowered – that the service should be viewed more as a tool for musical dissemination, rather than a guaranteed payment.

"There are people and musicians who live in the back end of nowhere in Scotland, or Australia. Without Spotify, I have a very strong feeling that they probably wouldn't have been noticed – because Spotify brings you to a wider audience. Obviously, it's

subjective but your product must have some kind of quality. Spotify helps get you out there, by getting yourself on a playlist or whatever... so I think in that sense it's good.” – User #21

From this answer, User #21 is actively choosing to remove the pressures of seeking remuneration from Spotify and is focusing on taking advantage of the platform's systems in order to get their music circulated on a wider scale. In reflection of User #21's experiences and Spilker's previously discussed 'levelling' effect (see Chapter 2), it could be suggested that the variety of digitalised, accessible platforms gives artists a range of lucrative options in music dissemination strategies that don't necessarily involve relying on platforms like Spotify for remuneration (Spilker, 2018).

This mindset from User #21 is supported by other insights from other musicians and managers (such as Users #14 and #20), who explained that they felt the playlists system did give artists a more equal playing field. However, when asked about the processes around uploading music to Spotify and into playlists, it became clear that initially getting tracks onto the Spotify platform creates different issues.

6.4.3 Issues Around Uploading

As seen from the findings in Chapter 4, the Spotify interface operates in a streamlined manner, with much of the back-end functioning, cataloguing, and tagging hidden from the consumer. When asked about uploading their music to Spotify, many musicians stated that if they had the choice, they would not upload their music to Spotify at all. Several reasonings were identified including genre tagging and identity, in addition to platform saturation.

6.4.3.1 Genre Identity Issues

As previously explored in Chapter 4, Spotify features millions of playlists which have been designed as collections of tracks to represent all aspects of life: including emotions, moods, and genre tastes. From the conclusion of the API findings, Spotify often employed the flexible use of multiple genre seeds and tags for each artist, and the variety of playlists returned by the API was mixed, featuring both vague and focused music playlists. Music genre playlists ranked as the second most popular playlist type, and in addition there were playlist categories which crossed genre boundaries and took on a hybrid approach. However, in contrast to these results which show seemingly flexible and constantly evolving playlist environments on the Spotify interface, musicians explained that when uploading their music to Spotify, they can only label their music as one genre from a restricted list of specific genres. For artists who draw from a number of genre inspirations, or whose work is purposefully flexible, this can raise detrimental

issues around their artistic expression and audience destinations for the tracks. User #2 explained how their multi-genre EP had to be shoehorned into the broad 'R&B/Soul' genre selection – using distribution service, DistroKid – and how this frustrating experience caused reflection for future creation of albums. This shoehorning into broad genre combinations result in a lack of representation for multi-genre crossover artists who have very little influence on the platform due to its infrastructure.

“I've always seen myself as quite an eclectic artist, both in what I enjoy and my output... I released two singles and an EP within an 18-month gap. The two singles would have easily been described as 60s soul, R'n'B, very retro...However, with the EP I decided to go in a different direction and take on more 80s kind of sounds, but also 70s, and it made this amalgamation of different things. We've always had to categorize our music, that's really important to do that because it helps with an audience, and it helps with an understanding of who you're trying to promote your music to... yet, I feel like when you upload to something like Spotify “Ok, I've got to put it in R&B/Soul”, that was the one that I found was the most representative – User #2

User #2 clarified that DistroKid is one of many distribution services used by independent musicians to circumnavigate the arduous issue of uploading to Spotify without a label. The type of service provides universally limited genre lists to aid artists in getting their content onto Spotify and other platforms. From further investigation, the sourced genre list from DistroKid in Table 11, contrasts to the larger genre-seed list retrieved from Spotify in Chapter 4 (Table 6), with the exception of a small number of matching genres (DistroKid, 2023).

User #2's experience as an independent artist raises further questions around the treatment and uploading of older (or legacy) music which has existed pre-streaming. However, as there is a lack of published confirmation around this subject from Spotify, my answer must be interpreted as an informed inference – based on the sample coding on the Spotify API website, and the data findings previously presented in this thesis (Spotify (c), 2023). Additionally, there does not appear to be interface-based differentiation in how older tracks are packaged into both Editorial and Algorithmic playlists. Therefore, I hypothesise that older/legacy music undergoes the same processes as newer music, and the audio analysis presented in section 4.6.

Although User #20 identifies that previous styles of music production and instrumentalization may struggle with being appropriately represented computationally, if an artist is signed to a label, this process will be often carried out by a commissioned distributor which potentially warrants greater representative accuracy. Having a mediating party involved within the upload process raises questions around how subjectivity influences the representation of artists on Spotify, which highlights an opportunity for future qualitative research within this complex area.

Table 11: A table showcasing the genre list provided by music distribution service DistroKid (2023)

DistroKid Genres (A-F)	DistroKid Genres (G-R)
Afrobeat	German Folk
Afropop	German Pop
Alternative	Hip Hop/Rap
Big Band	Holiday
Blues	J-Pop
Children's Music	Jazz
Christian/Gospel	K-Pop
Classical	Latin
Comedy	Latin Urban
Country	Metal
Dance	New Age
Electronic	Pop
Fitness & Workout	Punk
Folk	R&B/Soul
French Pop	Reggae
-	Rock

6.4.3.2 The Genre Identity Lottery

From Table 11, it can be seen that this list is notably more limited than the genre seeds provided by the Spotify interface: this list features only 31 broad combinations of categories in comparison to Spotify's 126 genres (DistroKid, 2023). Contrast is also found the differing choices of granularity between the two lists regarding certain genres. Where Spotify simply refers to 'German' and 'French' as blanket items, the DistroKid list features the subgenres of 'German Folk', 'German Pop', and 'French Pop'.

Notably, this list also contains one vague, non-music genre labelled as 'Fitness & Workout' category. Similarly to the examination of 'FUNCTIONAL' playlists in Chapter 4, the presence of this category again reinforces the popularity of functional playlists on streaming platforms and emphasises the notion of new genres being developed as a result of playlists and music streaming's embedded status into the everyday lifestyles of users (Bonini and Gandini, 2019; Pullar, 2022). This analysis relates to previous ideas on genre creation in Chapter 2, where it was theorised that "a genre can be viewed as a culture with the characteristics of a system or systematic functions" but not as the result of a rigorous application of rules (Holt, 2007, p.23). In this case, it could be suggested that the concept of exercise and fitness constitutes the system, and the musical characteristics of this system are embodied by popular categories of sports and exercise which require varying styles of music.

6.4.3.3 The Power of (a lack of) Labels

This vague method used by the platform reiterates previous analysis around the efforts of Spotify to keep the platform's processes 'behind the scenes' as neat as possible for the purpose of algorithmic functionality, freeing up the front-end interface for consumption purposes (Vonderau, 2019). However, this genre-based restriction in uploading raises questions around platform transparency and the potential influence on how artists will be influenced in their future creativity. From my empirical evidence, this is already occurring, as mentioned in the example of User #2, who came away from uploading their recent material to Spotify with serious reflections as to how they would create their next music release in order to ensure an easier upload process in future. This evidence demonstrates that artists may be persuaded to alter their music so that it can be neatly packaged into the platform's processes. As also previously inferred by User #20, musicians may furthermore attempt to simplify or tweak their music with aims of their work being more desirable to the Spotify algorithms and metric-led systems.

However, according to industry professionals User #14 and #20, these issues of artist identification and shoehorning, are not the most important issues that musicians must address. These users both mentioned that the consumers hold more power than ever in the streaming

structure, therefore, artists who wish to have their work picked up by the algorithm, must firstly tackle the more human issue of attention keeping. This again relates to the issue of patience and frequent track skipping, which was reportedly done by a number of interviewees in section 6.1.5 and signifies the pressures on artists to not only succeed on being noticed by users, but by the recommendation systems which power Spotify. This two-pronged issue faced by musicians reverses Shell's (2002) original concept of the digital panopticon: instead, musicians must fight to be seen, with the most significant threat of invisibility happening as a result of being ignored by users and/or the Spotify algorithms.

6.4.4 Musicians' Reflections Summary

When comparing the experiences of musicians to that of consumers in Chapter 5, it is evident that a musician's level of control over their work is diminished, with power shifting in favour of the consumers. While users can optionally rent access to the platform in order to gain more control of musical interaction, a musician cannot control how Spotify's users choose to interact with the tracks in their consumption and sharing. Furthermore, in addition to issues of remuneration, it is evident that the mainstream adoption of music streaming platforms has resulted in altering musicians' control across the aspects of their musical trajectory and their genre identity. In contrast to the abundant array of genre playlists and search options on the Spotify interface, artists must often attempt to shoehorn their music and genre influence(s) into limited lists of vague genre categories. This leaves complex and/or cross-genre musical works vulnerable, and potentially limited by not appealing to the algorithmically numerical measurement systems which generally favour less complicated arrangements (according to User #20 and #14 in Chapter 5).

This succinct yet powerful insight into the experiences of musicians and the expectations placed upon them to adhere to Spotify's processes, raises a number of issues surrounding financial and creative control. From this brief introductory segue into these topics, it is clear that this area requires future investigation within a separate research project. In order to gain a deeper understanding of the full array of issues faced by musicians in this prominent era of music streaming, questions around creativity, creation and dissemination of music, and the computation of culture must be addressed.

6.5 Chapter Summary

This chapter explored the impact of using Spotify on users' listening habits and treatment of music. From these findings, it is clear that Spotify has provided users with a service which streamlines both access and convenience and creates a plethora of advantages for their music

listening. Advantages included the simplified status of musical access, the ability to browse and discover on a seemingly unlimited scale, and the ability to share music with friends and family with ease and connection. From this empirical evidence, these positive effects were consistently underpinned by access and convenience.

However, the reported experiences from interviewees also show that modern technologies create modern problems, with users feeling hesitant in their listening due to the acknowledged effects their choices will have on their future recommendations. Another issue of impact is that users are reporting less patience, and notably, less enjoyment in their music listening. Critically, some users are also experiencing a devaluing effect when it comes to music listening, due to the abundance of choice which they are constantly exposed to. In tandem with these findings, I also uncovered an underlying respect for physical music formats among users (linked to the care and effort that they require), resulting in questions being raised around the true cost of intangibility and unlimited abundance in 21st century listening. Unlike the previously noted positive effects, these issues can be construed as more personal issues which relate to the wants and needs of individuals.

Therefore, the use of Spotify has created both positive and negative consequences for streamers. In reflection, these issues partially contradict the findings presented in Chapter 4 and Chapter 5, where the convenience and interoperability of Spotify previously received appraisal, along with its cheap value, and vast access. Also evident from this empirical evidence is the continual blurring of boundaries between music streaming and social media engagement practices, in the ongoing platformization of music and culture, where music and its artists' success are subject to the effects of algorithms based on numerical readings and proprietary metrics (Morris, 2020).

When asked about their awareness of the social and ethical issues surrounding streaming platforms, some users were aware of wider impact and remuneration issues as covered in the media, but many felt unaware in how to help those who may need support – alluding to the globally reaching, immovable influence that Spotify has established. However, there were many users who placed direct responsibility upon musicians to solve the issue or expressed belief that the problem could not be solved due to societal factors. Notably, a few interviewees also admitted that they had remained intentionally oblivious to researching public discourse on the topic, in order to continue using Spotify without any informed guilt of their usage. These more pessimistic viewpoints and attitudes arguably signify the presence of a 'deliberate' user within the parameters of platform commitment: these users just wish to utilise Spotify without any issues, external efforts, or disruption. Whereas previously, in Chapter 5, there was the

identification of ‘rebellious’ users who actively pushed boundaries and utilised the platform in their own individualistic autonomous styles.

Following this discussion of ethics and awareness, a range of answers were given when users were asked about what would stop them from utilising streaming platforms, with two key answers arising. Firstly, users would stop using Spotify if their subscription prices increased too much, reinforcing the current value for money that users prioritise with their Spotify subscriptions (as seen in section 5.1). The second reason that would stop users from streaming was if Spotify was found to be engaging in immoral behaviour through remuneration, data misuse or technology. This reasoning signified the importance of the role that individuality plays in interviewees’ determining what constitutes as actionable immoral behaviour. These findings are important, as they present the interviewees’ collective viewpoints on important socio-technical and ethical issues.

The last section of this chapter has also introduced foundational evidenced work which covers significant issues relating to the impact of music streaming platforms like Spotify on the experiences and issues faced by artists in the modern music industry. It is clear that this broad research area requires future investigation within separate research projects as questions around creativity and the computation of culture must be addressed. These brief, introductory findings are also meaningful in the ongoing academic efforts to reach a more ethical and sustainable balance for all stakeholders within the landscape of music streaming.

Chapter 7 Findings, Conclusions, and Outlook

7.1 Findings

In the previous chapters of this thesis, I have constructed and deployed a mixed method, interdisciplinary approach to explore the following research aims:

- How is music operationalised and promoted on Spotify?
- How do Spotify users navigate the platform to facilitate their music listening, and how have these uses impacted their views and treatment of music?

To effectively achieve this, my research was split into separate actions. Firstly, in Chapter 4, I computationally examined the breakdown of music on Spotify, observing how music was packaged and promoted on Spotify on both the front and back end. I achieved this by utilising a series of interface walkthroughs to explore the platform's aesthetic atmosphere, presentation of playlists, and personalisation features. Additionally, I coded and deployed the Spotify API to examine a large sample of playlist labels and musical metadata to confirm how music is metrically catalogued, tagged, and categorised in order to improve algorithmic functionality. Following this, in Chapter 5, I addressed the second part of my research aims by qualitatively collecting and utilising the interview data from twenty-three recruited participants in order to explore the methods used by Spotify users to navigate the platform, and in Chapter 6, I complete my research goals by investigating how these facilitations have impacted their feelings and engagement with music and wider topics around streaming.

In the first section of this chapter, I synthesise the significant findings from this research and portray them through the encasement of specific themes relating to: the shifting status of music in 21st century streaming, the powerful position of convenience, playlist abundance and musical presentation, the influence of users' priorities, the disparity in musician and consumer experiences, and the deterministic aspect of Spotify. The second section of this chapter revisits my specific research aims and the resulting conclusions that I have drawn from both the findings and experience of carrying out in this research. Finally, the third section of this chapter proposes a number of key areas which I could not fully develop within my research but recommend as being valuable areas of future study in the landscape of music streaming and its sociotechnical effects.

7.1.1 From Musical Luxury to Musical Utility

An important facet of my research was to understand what features made Spotify so desirable to its users, making it the leading streaming platform. Throughout this process, the key benefit of access permeated through my findings and cemented itself as an underpinning success factor. As shown in Chapter 4's walkthrough of the platform interface, the volume of musical access afforded to users is seemingly unlimited, with my API findings returning over 1397 playlists as a small sample of the thousands which are available to users on a twenty-four-hour basis. Unlike paying subscribers who have freedom of movement and complete access, users who choose to utilise free accounts are still rewarded with access to a profusion of playlists and entertainment. This showcases the economic value that users are favoured with in this arrangement and was reflected in Chapter 5's interviewee excerpts, with a range of users positively associating their streamlined access of Spotify with broader discovery and convenience.

Economically, my findings showed that interviewees championed this new era of music streaming through frequent comparison to the physical and financial obstacles found in using previous formats such as CDs, records, and even digital downloads. Interviewees shared their pleasure at the seemingly unlimited audio access which was awarded in reciprocation for a low (or non-existent) fee. For less than the average cost of a physical (CD) album – which was considered a luxury during the nineties and early millennium – the low monthly fee paid by users of a Spotify Premium account provides access to millions of hours of audio (Katz, 2010). Additionally, companies bundle Premium memberships with corporate reward schemes and purchases such as mobile phones, laptops, creating and encouraging impressions of Spotify's every-day utilitarian use and value (Spilker, 2018; Morris, 2020; Hagen, 2016). It was also found that the pleasure my interviewees experienced at being granted access to a (seemingly) unlimited resource was further fortified by Spotify's intangibility. Unlike the physical space and efforts taken to house a music collection of CDs, Vinyl or Cassette tapes whose volume is visibly clear, Spotify's intangibility makes the true capacity of its audio content incomprehensible to users (Eriksson et al., 2019; Vonderau, 2019). Furthermore, Spotify's method of access via application – on everyday devices and systems – boosts the organisation's message of convenient, low responsibility, flexible abundance to interviewees.

I found that those of my interviewees who engaged in daily streaming (for both membership tiers) were encouraged through Spotify's compatibility with smartphones and laptops, which were often utilised in their everyday tasks, with the majority of diverse users positioning Spotify as an essential tool in their daily working, vocational, and errand-based processes. Additionally, the interviewees' experiences of impacted listening in Chapter 6, in combination with the

additional reflections of previous literature reveals that this phenomenon of seemingly unlimited access has resulted in the shifting of music's status in society, now being viewed as an tool to enrich everyday activities. However, the examination of user impact shows that this shift has brought both positive and negative consequences for users' music engagement in terms of social and musical value, and music connection (Hagen, 2016; Morris, 2020; Katz, 2010; Spilker, 2018; Johansson, 2017). Therefore, where music was once a luxury which commanded multiple non-negotiable financial and physical conditions, Spotify and other streaming platforms have created an unlocked environment of (what is perceived as) unlimited access to all who have a compatible device and internet connection, fuelling the uptake and continual evolution of streaming.

7.1.2 Operational Conveniences Versus User Conveniences

In addition to the underpinning importance of both access and value for money, the data collected from my research showcased the success of Spotify's intentional use of manufactured convenience based on the prioritisation that users placed on this concept as a result. However, my findings not only confirmed the need for user convenience but showed that Spotify's need for convenience within the platform is extensive. This need is demonstrated by the operational techniques of presentation and promotion found within the interface walk-throughs in Chapter 4, where it was shown that the interface is constructed to provide a clean and consistent pattern of product presentation and recommendation.

7.1.2.1 Operational Conveniences

Upon closer examination, aesthetic, organisational, and technical decisions have been made by Spotify to simplify the platform's algorithmic workload (Vonderau, 2019). An example of this is the way that Spotify differentiates the exposure of playlists on the platform's main pages dependent on their type and origin. Although playlists recommendations are generated for user convenience to enhance and simplify music discovery for users, it is evident from these findings that Spotify does not promote user-created playlists on the platform's main pages in order to eliminate distraction from the vast number of Spotify Editorials, Algotorial playlists, and features. Instead, user-created (public) playlists can only be experienced through manual searches made by human users. From the utilisation of presentation and features offered in section 4.1, it is clear that Spotify has a clear formula in how to present playlists, and that user-created playlists offer too many variations from this formula and therefore do not get included within Spotify's popular promotional recommendation features. This exclusion of user-based playlists which are outside of Spotify's promotional control directly reflects the limitations of some algorithmic systems which rely on clean inputs, and also showcases the basis for Gioia's

‘smooth’ concept in the sense that those which cannot be adapted into the system are instead completely excluded (Johansson et al., 2017; Gioia, 2019).

Additionally technical approaches to achieve operational convenience were also found in the back end of Spotify’s infrastructure (in sections 4.6 and 4.8.2) and are unseen to the lay audience member. Many of these decisions have been implemented by the platform in order to streamline the organisation of tracks and navigate the vast amount of content on the platform. An example of this is found in the way that Spotify applies a layer of metric measurements to every track on the platform. This layer computationally measures tracks through certain musical and proprietary values (shown in section 4.6) in order to package the tracks into a state that is able to be passed through the algorithmic process of recommendation for user personalisation. In the context of musical representation, the vast quantity and all-encompassing nature of the sample playlists from my API research conveyed the convenience and coverage which Spotify is trying to apply to both the cultural commodity of music, and to the wider user experience.

7.1.2.2 User Conveniences

In examination of the experiences portrayed in the interviewee data (as presented in Chapters 4, 5 and 6), it is clear that convenience was also powerful motivator for use across all aspects of the Spotify experience. The results of this study confirm previous findings of various published studies into the behaviours of music streaming users: that the majority of interviewees highly valued the convenience of having their favourite tracks all in one place, on a platform that they found easy to navigate, and could operate in synchronisation between devices (Zhong et al., 2013; Johansson et al., 2017; Hagen, 2015; Gioia, 2019; Spilker, 2018; Rambarran, 2021). It was also evident that the algorithmic promotion on the platform was valued by users who enjoyed the convenience of being given music recommendations and personalised playlists based on their previous listening, as it relieved them of the responsibilities to find new music.

However, as seen from the interviewee data in both Chapter 5 and 6, a subgroup of rebellious users exist in the music streaming landscape who ignore the pre-established systems and offerings of Spotify. Instead, they operate the platform in an alternative style of convenience that aligns with their autonomous whims. In contrast to previously described actions and attitudes, these rebellious users reject Spotify’s offerings by searching for music directly, ignoring any and all direction or offerings from the personalisation technologies, deliberately listening to random tracks to throw off the algorithms, and the outright rejection of playlists which tried to define certain themes or scenarios (Liu et al., 2016; Spilker, 2018). These rebellious users also chose to reject the encouraged creation and curation of playlists on Spotify, as this labelling action was obsolete to their desired listening experience, often resulting in the owning of one large playlist of ‘liked’ songs for easy access. This defiant attitude,

combined with the majority of interviewees opting to search for music on their own terms, confirms the existence of desire for user autonomy and self-direction among users who navigate the manufactured experience provided by Spotify. In reflection of previous literature, this finding is contradicting to a number of studies, where users of technologies are previously depicted as submissive, neutral consumers (Johansson et al., 2017; Spilker, 2018; Lidsky, 2018; Zuboff, 2019). Paradoxically, it is the flexibility of Spotify as a platform, which allows for these forms of resistance against the marketed operational affordances. Thus, users do not need to apply their ideas of identity to a streaming platform. Unlike previous methods of expression provided by physical music collections and artefacts, they can instead enter the platform and find the data and navigation methods which reflect their feelings of expression and identity in the moment, enabled by the manufactured flexibility of Spotify through computational metrics and tagging.

These behaviours challenge the previous statements that position Spotify and music streaming platforms as influential systems. The first contradiction is found in Webster's (2020) idea that music streaming platform technologies are 'tastemakers', using influential recommendation technologies that challenge pre-existing social interactions surrounding music consumption, circulation, and discovery. The answers given by the majority of study participants indicate that they find personalisation features to be superficial, and intentionally ignored Spotify's track and playlist recommendations in the name of autonomous usage and direct discovery methods. The users in this study who chose to only reinforce their own echo chambers by listening to Daily Mixes, provide a further contradiction to Webster's (ibid.) ideas that these methods boost interaction on the platform and further refine the algorithms in regard to user tastes, thus aiding both the user and the Spotify algorithms in navigating the musical abundance within Spotify's massive catalogue.

7.1.2.3 Spotify's 'Smoothing' Over Music

The combination of this evidence surrounding formulaic playlist presentation, metric-led track organisation and device-based streamlining clarifies the necessity of the computational measures used to achieve these previously explained conveniences, and also shows how Spotify's actions as a platform align with Gioia's contextual theory of 'the smooth' (as explained in section 3.2.1) (Gioia, 2019).

When reflecting on these actions alongside this theory, Spotify's action of turning millions of tracks into compliant data points can be considered as the principal demonstration of 'the smooth' in action on a mass global scale, as this process lies at the core of Spotify's foundational recommendation functionality (Gioia, 2019). Although these aspects are physically separate, to achieve both operational and user convenience, Spotify is still altering music from

its original intended state (at the metadata level), by providing tracks with new computational meanings, metadata labels, tags, and functions in order to achieve convenience on both the platform and users' behalf. While artist-led metadata and user feedback is considered within the analysis stages of Spotify's ingesting process, the layering of Spotify's proprietary audio metrics and analysis over the original music files creates an operationalised identity for the track for the purpose of continuous recommendation—aligning the with Gioia's musical idea of 'the smooth' processes undertaken by modern platforms (Gioia, 2019). Furthermore, by maintaining a tight control over the metadata of music uploaded to the platform and the commercial playlists in which they are encased, Spotify reinforces 'the smooth' processes and itself as both the overseer and gatekeeper of music for those who engage with the recommendations (Johansson et al., 2017; Vonderau, 2019). Interviewee findings show that this layering of computational metrics and tagging has been well received by groups of users who enjoy having all of their music in one platform, and those who enjoy engaging with Spotify's recommendations.

However, evidence from this thesis shows that these metrics also affect the experiences of more 'rebellious' users who choose to ignore recommendations, as metadata and tagging will influence (to varying degrees of success) the results of a user's manual music and genre searches, highlighting the issue of subjectivity which continually challenges the computational capturing of musical interpretation and users' musical experiences.

7.1.2.3.1 The Precarious Placement of Genre on Spotify

When examining the audio analysis metrics used by Spotify to break down the features of a track, the concept of genre was absent (as detailed in section 4.6.1). Genre's exclusion from Spotify's key music metrics implies that while genre playlists are maintained on the platform, and genre seeds and tags hold incrementally important positions in Spotify's recommendation engineering and API work (section 4.8.2), the actual concept of a track's genre is not initially important to Spotify, hence its exclusion from being used as a key metric when inaugurating a track to the platform.

This is a notable detail, given that genre was a historical factor in the processes of The Echo Nest – the audio analysis tool which has heavily influenced the powering and recommendations of Spotify. Echo Nest co-founder Brian Whitman (2005, p.21) historically split sampling genres into the "big five" categories of Popular Music: "Rock, Pop, World, Electronic and Jazz". However, it is possible that Spotify could be focusing on established and proprietary metrics, in attempts to avoid the historical interpretive issues of subjectivity which have previously hindered genre classification within MIR (Rockwell, 2012; Lambiotte and Ausloos, 2006; McDonald, 2023). Nonetheless, genre's absence from Table 5 confirms that it is not established

as a key metric of measurement in Spotify, suggesting that socio-cultural features of songs do not hold weight in Spotify's initial categorisation and recommendation practices. However, genre is shown to be actively used on the platform as additional labels and tags for lesser algorithmic filtering functions – used on tracks which have already been measured through the key metrics listed in Table 5. This was evidenced in section 4.8.2.3, where artists received multiple generated genre tags through API retrieval.

While this evidence shows that genre is actively considered, the inability of lay-audiences to view these genre-seeds and tags at the front-end interface presents Spotify's platform as a deterministic technology: making constant decisions and recommendations around artistic and cultural creations, based on minute measurements and tags which are largely unknown (to users) in terms of complexity, importance, and accuracy.

7.1.3 Capturing the Human Experience in Playlists

From my API research conducted in Chapter 4, a sample of 1397 playlists were thematically sorted to gain deeper insight into the types of scenarios, events and concepts for which Spotify create playlists, with the top three categories being PERSON SPECIFIC, GENRE, FUNCTIONAL. From this, can be inferred that Spotify finds success in categorising around artists and people, due to the flexibility that this affords, allowing the platform to connect as far as possible with its millions of online fans on a global scale through artists and persons of interest. However, the presence of playlists which relate to everyday life and trending topics, and social awareness reinforces scholarly notion around the status of Spotify and as an evolving streaming platform whose function is to be a personal companion (Johansson et al., 2017; Prey, 2015). This use of trending topics combined with the visual presence of these playlists depicts a motivation of Spotify utilising socially relevant promotional angles in order to entice users to explore these playlists further.

7.1.3.1 Spotify's Genre Playlists and User Expectations

From my findings, it was notable that the concept of traditional music genre was preserved on the platform, as Chapter 4 showed over 17% of the playlists retrieved were aligned with traditional and newer music genres, and MUSIC GENRE ranked as the second highest category for playlist distribution. However, interviewee answers in Chapter 5 confirmed that the majority of users did not search for music genre, as many of them found Spotify's capturing of their favourite genres to be artistically inaccurate or too simplistic. The collective consensus amongst users was that Spotify would promote the most obvious artists at the top of the algorithmic pile in order to stay safely within stereotypical genre boundaries. As shown in Chapter 4, interviewee dissatisfaction around recommendations stems from a lack of

spontaneity from the algorithm, especially when recommending users' favourite genres. From these empirical findings in combination with previous literary ideas including 'the smooth', I predict that many of the algorithmic issues faced by Spotify relating to accuracy and consumer satisfaction are due to the uniform ways in which the platform operationalises and presents track metadata behind the scenes, as shown in Chapter 4. It is evident from these findings that the computational mapping of such a subjectively fluid source – music – leaves much to mathematical interpretation and filtering, which the majority of this study's interviewees did not find satisfactory (Gioia, 2019; Johansson et al., 2017).

7.1.3.2 Users' Personal Playlists Champion Functionality and Convenience

Spotify hosts approximately four billion user-made playlists, showing the flexibility of the platform and how it encourages user expression and categorisation (Eriksson et al., 2019). However, when users were asked about their own playlist curation, the vast majority of interviewees who (actively and somewhat actively) curated playlists explained that they chose functional, simplistic titles for their playlists, in order to conveniently pair their playlists with activities that they deemed appropriate. These functional examples included walking, driving, exercising and work.

While some interviewees exhibited more specialist knowledge which influenced their playlist creation, they also had playlists titled around more mundane activities. Therefore, the answers given by interviewees combined with the presentation of Spotify's interface makes clear the value that users place on the convenience and flexibility that allows them to categorise their music as they see fit. Given the nature of the playlist themes used by interviewees, it is evident that these users regard their music playlists as life-enriching tools whose focus are dependent upon environmental factors. However, a more critical suggestion through the lens of SCOT would be that music has become more important to the Western user in its ability to distract the user from the everyday mundane. Therefore, they utilise the convenience of Spotify to facilitate this need. From this usage, it can be concluded that the affordances provided by Spotify, are the very forces which are now shaping it, consequently arriving in this current listening landscape.

7.1.4 Spotify: Socially Mindful, but Technologically Deterministic

Throughout my thesis, I have analysed findings (where appropriate) through the lenses of Social Construction of Technology (SCOT) and technological determinism. With regards to SCOT theory, certain aspects of Spotify align with these parameters, in examples such as the shown shaping and reconfiguration of the platform's identity in accordance with user mindsets and the presence of social and political movements. Other examples of this are Spotify's public efforts to be more transparent with users, and the addition of new artist-supporting features due to

public campaigns and criticisms (DCMS, 2021; CMA, 2022; Ahmed, 2023). However, from this evidence, it is clear that music streaming platforms and technologies like Spotify cannot be entirely captured through the lens of SCOT, due to the platform's infrastructure and objectives.

7.1.4.1 Spotify's Impact: A Study in Technological Determinism

From the findings collated through this research process, it is evident that Spotify also aligns closely with the theoretical parameters of technological determinism, due to the empirical and pre-existing evidence of impact and resulting effects of the platform itself upon society (DCMS (b), 2021; CMA, 2022). Examples of this – as presented in Chapter 4 – is how Spotify heavily invests in a range of personalisation technologies with the purpose of streamlining and influencing the process of music listening for every individual user on a daily basis, with the results of these efforts being presented to varying degree in interviewee excerpts in Chapter 6. From those excerpts, it is shown that the impact of Spotify's manufactured experiences has undoubtedly begun to shape society and its future generations' interactions with music listening and discovery, with effects ranging from the influencing of new interviewee listening practices and values, to the shaping of industry stakeholders' conduct and approaches to music distribution. A notable side effect of using Spotify also presented in Chapter 6 was several interviewees declared their dependence upon the convenience of using it on a daily basis, making them lazier listeners who are less likely to remain engaged when listening to music. The input from interviewees in these previous chapters determine that Spotify slotted into their lives neatly and made music listening less of a physical chore, resulting in less actions and responsibilities on the user's part as a music listener and consumer.

This is due to the level of technological functionality that Spotify as a platform has embodied, allowing the platform to operate on a mass scale to millions of users on a global scale in real time (Kemp, 2022). Through the combination of AI and human teamwork, Spotify has fully exemplified personalisation features such as the highly technical 'Algotorial' playlist – a feature which shapes users' listening on a mass scale every day. These features, the platform's use of labelling, and interface design allows Spotify the opportunity to insert direction into users' listening experiences, portraying itself as a trusted voice in the musical abundance. This relates to my previous hypothesis (in section 3.2) that music streaming platforms function to balance identities of both gatekeeper and accessible utility, while utilising the presentation of playlists to influence the user-to-algorithm connections in tandem. I also hypothesised correctly that the platform takes an approach of flooding users with the illusion of musical choice in order to provide the user with a self-assured flexibility around platform purpose and identities, as shown in personalisation-based findings and user responses from Chapters 4 and 5.

It is evident from this research that the systems which power streaming platforms have also sent tremors through the music industry, opening up music discovery on a whole new level to users, and allowing musicians the opportunity to distribute their music on a wider scale through the vehicle of playlists. However, as shown in Chapter 6, this landscape does not hold equal experience or reward for these differing sets of stakeholders.

7.1.5 A Tale of Two Experiences: Musicians and Consumer Attitudes

From the qualitative research carried out in Chapters 4 and 5, it is clear that Spotify reduces the financial and physical barriers to music access almost entirely for its users, with levels of access being dependent upon a user's choice to have a subscription or free account. However, as shown by my introduction of the musician's perspective in Chapter 6, it is clear that for many musicians, the Spotify experience is not as forthright, with issues arising around economic and creative elements.

7.1.5.1 Identity and Renumeration Issues

As previously explored in Chapter 4, Spotify features millions of playlists which have been designed as collections of tracks to represent all aspects of life: including emotions, moods, and genre tastes. From the API findings in Chapter 4, many of the playlists returned by the API crossed genre boundaries and took on a hybrid nature. However, in contrast to the seemingly flexible and constantly evolving playlists as portrayed by the front-end interface, musicians must tag their music under a restricted list of specific genres. This experience is reflected by musicians in Chapter 6 who are not signed to a label, who explain that they are expected to shoehorn their material into vague, limited genre categories in the process of uploading their music to Spotify. This provides both technical and creative difficulty for artists who identify with multiple genres and portrays how musicians are already considering the streaming applicability of their future works, demonstrating one way in how streaming will impact the future of musical creation.

It is also clear from the renumeration experiences briefly detailed in Chapter 6 that the economical balance of Spotify is tipped heavily in the favour of the consumer's experience. As mentioned in Chapter 2, between 2020 and 2023, public and policy-based attention has intermittently surrounded the renumeration issues faced by musicians on streaming platforms (CMA, 2022; DCMS (a), 2021; DCMS (b), 2021). An awareness of these issues was present in varying levels amongst interviewees, with a number of non-musician users wishing that they could do more to help musicians on the platform (as long as it suited their idea of appropriate assistance).

However, from the full range of answers provided in Chapter 6, it is strongly evident that the majority of interviewees are hesitant to part with their Spotify subscription, with levels of attachment varying amongst users based on their volume of use and their desire for convenience. Many users explained that although they were aware of the issues facing artists and felt bad for them, they didn't feel it was a compelling reason to quit using Spotify, as it was simply too convenient and economically viable to give up. This experience was not isolated to consumers, as there was evidence of artists also feeling guilty about utilising the platform as consumers – believing that they were actively contributing to the issues at hand.

7.1.5.2 Convenience Trumps Moral Awareness.

It was shown in Chapter 6 that users provided a blend of mixed attitudes when asked about their knowledge on the impact of music streaming. From the consumers who provided defensive reasonings, it was evident that these users prioritised both their privileges and the social acceptance of the current streaming model, which cements the presence of a social division between consumers and artists. These attitudes, combined with the vast quantity of music already available on the platforms, reinforces the distinct advantage of users in this arrangement for musical access.

What also makes this attitude notable is that many users – in response to being asked to describe factors that would stop them from using Spotify – said that they would stop utilising Spotify if there was an increase in the subscription prices, or evidence of immoral behaviour. This not only signals a collective acceptance in the current situation of artists, and reinforces the subjective nature of user morality, but also showcases the need for ongoing efforts to find ethical, financial, and social balance for all stakeholders within the intangible landscape of music streaming.

7.2 Conclusions

This research has explored the operationalisation of music on Spotify through the analysis of Spotify's interfaces and the qualitative musical experiences of users. More specifically, this research focused on how music was presented to Spotify users through the platform, and how users' navigation and uses of the platform has consequently changed their engagement practices and connection to music.

By successfully deploying novel mixed methods and theoretical approaches to my interdisciplinary research, I have fundamentally demonstrated through the fusion of empirical qualitative and quantitative data, that the success and impact of Spotify is not aligned to any one trait or function: that it – as a service – is designed to correlate to multiple areas of value

appropriate to its users. In exploring the Spotify music experience from both the technical and users' perspective, my research has produced novel evidence-based analysis that demonstrates how music streaming platforms are complex, yet flexible structures that are increasingly embedded into the everyday lives of users through technological development.

This section presents the conclusions drawn from my significant findings with relation to my original research questions, and the broader inferences which have arisen. Following this, I reflect on the valuable novel and supporting contributions of my research, propose future research topics, and present my closing remarks.

7.2.1 How is Music Promoted and Operationalised on Spotify?

In order to understand further how music is operationalised and promoted on Spotify, I utilised an interface walkthrough to explore the platform's aesthetic design, playlist presentation techniques, and offering of personalisation features. Additionally, I coded and implemented the Spotify API to retrieve a large sample of playlist labels and separate pieces of musical metadata to confirm how music is metrically measured, catalogued, tagged, and categorised in relation to platform functionality. This section explores the valuable conclusions from the resulting findings of these methods.

7.2.1.1 The User Interface

My findings demonstrated that Spotify – as a service – harnesses the power of convenience in order to streamline and personalise listening experiences, bolstered through the appeal of twenty-four-hour access, inter-device operability and an attractively designed, bright and engaging user interface. The presentation of the interface's aesthetic is constructed to eliminate distraction and direct focus towards the vast number of personalised playlists, which are generated and created to enhance and simplify music discovery and selection for users. This attractive interface design also conceals the powerful algorithms which work to gather information based on user interface interactions, underpinning the platform's signature personalisation methods. These methods aim to create a bespoke playlist environment which appeals to each user on an individual level, reflecting their lifestyle and music tastes through the use of friendly language, attractive imagery and informal wording. This is emulated in the intense mixture of Editorial and Algotorial playlists which feature on Spotify's Home and Search pages, as seen from the interface walkthroughs provided in my research.

From these findings, I conclude that Spotify utilises these presentational techniques to continually assert itself as a trusted voice within user listening through the contextual use of visual and text-based promotion that is presented in a friendly and casual manner. This is a

valuable finding as it showcases the careful construction of communicative techniques that platforms will adopt in order to retain user engagement and build rapport with millions of users on a global scale.

7.2.1.2 Playlists Representation

As shown from my findings, the playlists presented on Spotify's user interface are created with engaging and mostly personalised labelling, vivid and relevant thumbnails, and are promoted on themed and scenario-based subjects, providing users with an endless loop of listening through hyperlinked interconnectivity. In reflection of the resulting twenty distinct categories that I derived from my thematic research of the 1397 sampled playlists, I found that the use of specific artists/people and music genres were extremely popular themes used by Spotify for both Editorial and Algotorial playlists. In reflection of the evidence from this experiment, I determine that this popularity is due to the flexibility, and existing fanbases that come with these categories – exhibiting the influence that traditional structures associated with physical music listening still hold within present day engagement.

From this collection of evidence, I conclude that Spotify as an organisation not only aims to host a vast, streamlined, interactive catalogue of music, but also uses its own interface in attempts to assert itself as the trusted entity in shaping a user's listening journey while they engage with the platform. I also determine that through the application of sheer quantity and incremental thematic differentiations, Spotify arguably achieves its marketed desire to have personalised playlists for every occasion, showcasing the platform's efforts to cover every facet of the human experience. However, the overlapping state of many of these features and playlists, in combination with the lack of promoted user-created playlists, exposes the platform's underlying need to balance the offering of quantity with uniformity, in what I determine to be efforts to aid algorithmic functionality and user navigation. This is significant as it supports my previous conclusion (section 7.2.1.1) that Spotify as a platform is intentionally using promotional techniques and a deployed saturation of Algotorial and Editorial playlists in attempts to computationally construct a trusted presence within the personal practice of music listening, and further retain control of the recommendation of music.

7.2.1.3 The Operationalisation (and Dilution) of Music

From my research, I have found that Spotify presents itself as an evolving platform which consistently introduces new personalisation features in the forms of more advanced playlists, AI assisted technologies, and other gamified features designed to maintain user attention and enhance listening experiences. These continual developments are driven by complex

algorithms, which in turn are powered by tagging and computational metrics hidden in the black box of Spotify's private processes.

Throughout the music ingesting and audio analysis process, Spotify adheres in small ways to traditional music categorisation, using features such as tempo and key signature. However, it is evident that the platform favours the use of a combination of standard and proprietary metrics during the process of audio analysis, placing a Spotify-sanctioned layer of metrics over the tracks original states to make them suitable for algorithmic profiling. From this research, I conclude that Spotify's engagement in the aforementioned processes results in what I determine to be the dilution of the complex and contextual nature of music, which Spotify computationally augments through proprietary metrics and black-boxed processes to create into simplistic binary placeholders for algorithmic functionality. This is significant as it demonstrates the impact of a technological development on the arts: through my findings, it is shown that Spotify's presence is beginning to alter a number of processes, such as how music is engaged with by users; how artists formulate their music to be favoured by to recommendation algorithms; and how users value music as a cultural commodity on an everyday basis.

7.2.1.3.1 Music Genre on Spotify

In the initial ingesting process, Spotify also receives contextual track metadata and information by asking musicians to identify their music's metadata (and genre(s)) through a Spotify for Artists form. Additionally, Spotify gathers external information from online sources. My examination of these processes highlights the absence of genre being used as a metric in Spotify's audio analysis process. Furthermore, the presence of multiple algorithmic genre tags being applied to artists implies that Spotify relegates the concept to genre to a lesser function on the platform – acting as an additional label for a different algorithmic or filtering task.

While I determine that this absence signifies Spotify's attempts to avoid historical issues of subjectivity which have hindered genre classification, this absence suggests that certain sociocultural features of a song do not hold weight in Spotify's key categorisation and recommendation practices. Furthermore, I conclude that the intention of music on Spotify is altered by the grouping of another emotional, functional and lifestyle concepts alongside traditional music genres, demonstrating the platform's desire to market music as a utilitarian everyday tool to accompany human life.

7.2.1.3.1.1 Music Genre and Artist Experiences on Spotify

From my API-retrieved data, it was found that Spotify can algorithmically assign multiple genre tags to each artist, demonstrating the platform's acknowledgement of how artists can be cross-disciplinary. However, this experience was not shared by certain musician-interviewees, who reported a number of technical and creative difficulties – an example of this being the shoehorning of their music into inadequate genre categories when uploading their music to Spotify.

This is significant as it was one of a number of sequential issues faced by artists in the brief overview of their experiences, showcasing the imbalanced situation faced by artists. This qualitative finding supports my strong conclusion of the need for ongoing research in order to find more sustainability across financial, creative, ethical, and social areas for all stakeholders involved in the Spotify and music streaming landscapes.

7.2.2 How Do Users Utilise Spotify, and How Have These Engagement Practices Impacted Their Views and Treatment of Music?

Through powerful and evolving technologies, Spotify is actively able to shape a user's level of musical experience through intangible cloud-based interactions; by giving users the ability to search, create, categorise, curate, and share in a landscape of manufactured musical abundance. In order to gain an understanding of how users navigate Spotify and the impact that these uses have had on their experiences, I interviewed twenty-three Spotify users who were diverse in their backgrounds, music tastes, and account types. In this sample, 74% owned a Premium subscription, demonstrating what I determine to be the popularity and perceived benefits of Premium. Other user reasonings for purchasing a subscription were individually based on appetites for platform control and the specific economic, personal, and practical values that they expected to gain in return. During these semi-structured interviews, the participants answered my questions on their interactions with the platform including streaming environments, search preferences, sharing habits, attitudes to categorisation, use of the personalisation features, and opinions on the issues fuelling public debates around music streaming platforms.

7.2.2.1 Streaming Environments

My findings reflected that the majority of interviewees used Spotify on a daily basis for over an hour, with 87% confirming that they streamed their music continually in the background while they were focused on other tasks that were deemed appropriate to be accompanied by streaming: providing examples such as work, study, exercise, and various other scenarios

unique to the user. With regard to streaming devices within environments, the smartphone was favoured due to its portability and critical role in the life of the modern user. Very few interviewees engaged in focused listening and therefore, from these combined findings it is evident that using Spotify has shaped these users' practices of music listening into a more functional form: fused into the everyday life, acting as an additional enrichment to specific fundamental and non-fundamental activities performed by users. Additionally, I found that the pervasive nostalgia of financial and physical conditions required by previous physical modes of music boosted Spotify's popularity even further across participants.

Therefore, it is my conclusion that Spotify is successfully employing mass integration into the lives of users through the driving forces of streamlined device compatibility and interoperability, creating a convenient service which is flexible to utilise easily in a variety of settings. Furthermore, from these findings, I determine that Spotify and other streaming platforms have created an unlocked environment of (what is perceived as) unlimited access to all who have a compatible device and internet connection, fuelling the uptake and continual evolution of streaming. This is significant as this showcases the changing mindsets of stakeholders around the personal, economic and practical value of music. This phenomenon of seemingly unlimited access has resulted in the shifting of music's place in society, moving from the status of luxury to being viewed similarly to that of other utilitarian tools needed to assist everyday activities.

7.2.2.2 User Methods for Platform Navigation

With regard to understanding how users navigate Spotify for music search and discovery, I found that 74% of users chose to use the platform in a more autonomous, manual style, due to ease and convenience. For this majority group of interviewees, their experiences of discovery came not from Spotify, but instead from external sources: including radio, other public airplay, and social media platforms. Justifications for these preferred methods surrounded themes of self-knowledge in musical taste and the convenience of direct search and linkage. With regards to those who did utilise the platform's features and personalised offerings for music search and discovery, my findings showed that the majority of users did not search for or engage with Spotify's collections of traditional music genre playlists, as many of the interviewees deemed Spotify's capturing of their favourite genres to be artistically inaccurate or too simplistic. I also identified the existence of three distinct levels of engagement with playlist categorisation and curation. This variation signifies what I determine to be the embedded flexibility of access and comfort that Spotify facilitates, allowing users to engage at whatever intensity that they deem personally appropriate, with no perceivable restrictions or limitations. I also found that a number of Premium and free account users engaged in what I labelled as 'user hacking' behaviours, resulting in streamlining outputs for their listening benefit and convenience.

From these perspectives, I conclude that this strong presence of user autonomy, valuing of convenience, and the rejection of Spotify's influence strongly demonstrates users' underlying desire for user autonomy and self-direction in certain aspects of 21st century streaming. These actions provide significant clarity around the strength of user intention, and show that for many interviewees, the concept of autonomy retains more influence than marketed accommodations created by Spotify's varied algorithms, features, and playlists. It is also my conclusion that the majority of these users' attitudes are fuelled by their previous experiences with physical music mediums and the seemingly autonomous music discovery experiences which they enabled.

Significantly, my empirical results, in combination with the findings around user attitudes, leads me to conclude that Spotify faces a substantial level of both intrinsic and extrinsic challenges from its users, other mediums, and platforms in its effort to harness, retain, and encourage user engagement in the attention economy ecosystem: a thriving modern phenomenon.

7.2.2.3 User Opinions of Spotify's Personalisation Features

As previously established, Spotify places significant focus and investment into personalising user listening experiences through playlists and other features. However, from the findings within this study, the majority of users do not utilise the platform for these features. Instead, these users chose to reject the personalised musical offerings of Spotify and adhere to their own autonomous notions, utilising Spotify as a massive static cataloguing tool and place to search for and save tracks that they've discovered externally. Of the interviewees who did report using the features of the platform, they mainly utilised the recommendations which represented their recent listening, reinforcing their own tastes, self-directed listening, and notions of a musical echo chamber. This was due to a dissatisfaction found among users in relation to the lack of spontaneity generated from Spotify recommendations, bolstering questions which were raised earlier in my thesis regarding the success of future personalisation in music streaming. It was also noted that very few of these feature-using interviewees entertained the seasonal or novelty personalisation features.

This evidence, combined with my findings on the existence of Spotify's rebellious users, leads to the reinforcement of my conclusion that self-direction and autonomy still triumph among users in their music listening journeys. However, from my results, I can also conclude that users will intermittently contradict their wants when they place high levels of entertainment responsibility on Spotify and expect the platform to accommodate all of their musical desires. Users wish for the algorithm to take the position of supplier, seeker, and informant to a deeper level, whilst also asking the algorithm to develop the new, novel role of entertainer, creating surprise and spontaneity in its recommendations. This is a significant finding within this study as it emphasises the presence of a collective desire to remain autonomous when utilising

technology – potentially due to the nostalgia of physical music. However, it also highlights the changing attitudes and expectations of modern-day consumers when navigating the manufactured, technologically deterministic landscape of streaming.

7.2.2.4 Impact on User Listening and Attitudes

From the examination of my empirical qualitative data, it is evident that music tastes have broadened in a variety of ways, at a scale that was not previously possible during the era of physical listening. However, my research also reveals what while these Spotify users relish the ability to discover and access more music than ever before with complete convenience, many feel like they no longer have enjoyment, value, or patience for music anymore, and that they do not feel any identification with specific music types. Several users felt that their personal value of music had greatly decreased through the use of Spotify. Many users attributed this experience to the removal of physical tangibility, and the scenario of effort and reward that was once present with physical music mediums, making clear the ongoing strength for future enjoyment of physicality and music format revivals. The influence of previous physical music ownership and listening was shown in how users phrased their discussions and in how others engaged with the platform. An example of this was shown by users choosing to circumvent the encouragement of Spotify and instead save entire albums and artist collections into their Spotify libraries instead of creating new playlists.

The results of these empirical findings and this image of despondent users leads to my conclusion that these listeners are so saturated with musical access, ease, and the privilege of abundance, that they are now desensitised to the enjoyment of music listening as a result of complete overexposure and musical excess, encouraged further through reflections of physical music ownership. However, in reflection of qualitative findings, it is evident that these negative consequences were not of a severe enough nature for them to stop using Spotify. A number of users even reported to be addicted to using the platform due to its functionality, value for money and convenience. The majority of users' answers around what would cause them to stop streaming signalled what I conclude to be a collectively enthusiastic acceptance of Spotify's current streaming model (regardless of the impact on users or other stakeholders), showcasing the unflinching power of convenience which conclusively underpins the Spotify musical experience. These are significant findings as they actively showcase these users' shifting mindsets around the personal, economic and practical value of music: prioritising convenience from over a service which has been described as 'addicting'. Furthermore, I conclude that these findings align with themes of digital overconsumption which are commonly attributed to 21st century online technologies and the ongoing commodification of the arts (Prey, 2020).

7.2.3 Reflecting on the impact of API data limitation

This mixed-method research relied on input from sources of both qualitative and quantitative data, with API-retrieved data forming a significant portion of this work. While I initially reflected on the volatility and dependencies of my research model in section 3.9, the experience of conducting this research offers further opportunity to provide a brief reflection on the impact of limitations placed upon the API data. While the data retrieved from the API provided valuable insight into conventions around Spotify's metrics, labelling conventions, thematic parameters, and the presentation of playlists within the platform; the impact of capping on the returned data was unavoidable. A maximum of 1397 playlists and 126 genre seeds were used to inform my study, with the reasonings for these specific numerical and thematic limitations remaining unclear.

While I judge my findings to be robust in providing answers to the research questions presented, I can conclude that the limitations of scope presented upon the data retrieval have influenced my research's conclusions. I deem that this display of limited access by Spotify demonstrates what Perriam et al. (2020) previously describes in section 3.9 as the efficiency of corporations flexing their asset control within the research landscape. Considering the wider impact of this corporate limitation to access, it is probable that this research method, if repeated in the future, could display differing results due to changes in API limitations or directives.

7.3 Reflecting on Research Contributions

Through this research, I have contributed to the ongoing study of music streaming from musicological and sociological perspectives in fundamental ways. As initially outlined in section 1.2, this includes contributing to pre-existing music streaming studies and adding to research method design, pre-existing theoretical perspectives, and the crucial broadening of demographic diversity in qualitative research (Johansson et al., 2017; Hagen, 2016; Spilker, 2018; Gioia, 2019).

Additionally, my study has implemented original combinations of methodological, theoretical and data approaches, resulting in contributions of original evidenced conclusions which focus on the impact of Spotify within the daily lives and experiences of consumers and musicians. The following section provides reflections and further detail on these proposed contributions from my work, as initially outlined in section 1.2.

7.3.1 Methodology and Research Design

Methodologically, my study featured two research aims: the inner working of Spotify and the operationalisation of music, and the practices of streamers and their impacted musical experiences as a result. By combining these two important perspectives which are usually explored in separate fields of academia, my research took the form of a wide-ranging study which has now contributed valuable new informed musicological and sociological perspectives to the field of music streaming research.

In reflection of my research's design, I adopted a mixed method approach that was unique in design and reflected the interdisciplinary nature of the study's components. As detailed in section 1.2, this included investigating Spotify's treatment of music through front-end interface walk-throughs and the collection of multiple API-retrieved datasets: including 1397 thematically categorised playlists and three separate lists of closely analysed music metrics, artists data, and genre-seed metadata (detailed in sections 4.5 - 4.10). In reflection, this has allowed my study to investigate the intentionally presented facets of Spotify's interface(s) and explore the metric-led processes that the platform undertakes to operationalise music for algorithmic personalisation and recommendations. Doing so has allowed my research to fundamentally contribute to the understanding of how Spotify's back-end methods and interface presentation results in the dilution of certain cultural aspects of music in order to prioritise streamlined operational convenience as discussed by previous studies (sections 4.6 - 4.8) (Johansson et al, 2017; Eriksson et al., 2019). This digital quantitative strand also provided enabled my study to provide insight into the limitations faced by the platform in representing music in a mass marketed two-dimensional setting.

I combined this technical data with the qualitative method of conducting semi-structured interviews with twenty-three diverse interviewees in order to collect rich data surrounding their experiences and motivations for using Spotify to stream music (detailed in sections 3.4 - 3.6). In choosing to design my semi-structured interviews around the Spotify users' musical experiences and computational findings, I broke the interview questions down into three stages surrounding environmental context, platform navigation, and music interaction (as shown in Appendix A). In doing this, I was able to create an original list of interview questions which query the experiences of Spotify users. Due to the semi-structured nature and focus on user-specific perspectives, this list of original foundational questions could be utilised as a tool within the future qualitative study of any music streaming platform. Additionally, my findings and research have crucially broadened academic understandings of consumer attitudes in music streaming, and elaborated on the types of consumers that utilise the platform and their behaviours: those who are influenced by previous physical music listening, rebellious users who ignore Spotify's

digital offerings and independently use the platform as one large catalogue, and those who use the service intensely to document their taste and experiences in detailed rituals (as shown in sections 5.2-5.5). This is an important contribution to other academic studies which place power in the perspectives of users' actions, showcasing them as intentional and conscious actors within the streaming landscape where they have been previously characterised as easily influenced actors (Spilker, 2018; Johansson, 2017; Webster, 2021; Prey, 2020).

The original fusion of these distinct selections of datasets within the music streaming research space has allowed me to formulate a new analytical, evidenced perspective surrounding the different stages of user engagement in the musical experience provided by Spotify, contributing to previous study on the streaming habits of users (detailed in section 5.3-5.5) (Hagen, 2016). My research methodology has also allowed me to analytically contribute to comprehension of impact that these habitual practices are having on users and artists of the platform; their knowledge and experiences of music; and the impact on future formulations of music and existence of pre-established concepts such as music genre (as shown in section 7.2.2). Additionally, as a result of the computational data fused into this novel mixed method approach, I was able to explore direct relationships between the users' experiences and the underpinning manufactured forces which were driving interviewee usage, a valuable addition of perspective to the field of sociological music study (Roy and Dowd, 2010; Frith, 1996).

The outputs resulting from this unique methodology crucially contribute to the ongoing discourse in the music streaming research space regarding the operational forces of platforms and the stakeholders who utilise them (Eriksson et al., 2019; Spilker, 2018; Johansson et al., 2017; Hracs and Webster, 2020; Gioia, 2019; Morris, 2020).

7.3.2 Theoretical

In Chapters 4, 5, and 6, I consistently framed my findings and empirical data comparatively through the contrasting lenses of SCOT and technological determinism. While these theories have been compared previously in historic studies, this is the first instance of combining these contrasting ideas within an interdisciplinary research project within the area of music streaming (Dusek, 2006; Hallström, 2022). Therefore, my study has provided a new methodological insight within this field, covering the many societal and technological motivations of music streaming, including the many contextual identities which Spotify embodied within this research. Furthermore, I have contributed an original interdisciplinary research perspective to the existence, use, and impact of music streaming: as comprehended through this study's exploration of Spotify's influence, actions and user engagement.

Additionally, in Chapter 4, I framed the findings from Spotify's interface analysis and API-data collection through Ted Gioia's pre-existing musical contextualisation of 'the smooth' theory (originally drawn from philosopher Byung-Chul Han) (Gioia, 2019). However, while Gioia's (2019) historical reflections and commentary on the evolution of music streaming were high-level and more general, my research applied 'the smooth' to Spotify at the level of inner workings, providing a qualitative and quantitative perspective which was novel to the theory and therefore to the wider field of music streaming study. From this, I was able to map this interpretation of 'the smooth' to successfully show how Spotify embodied the theory regarding their treatment and presentation of music tracks: moulding them into algorithmically friendly material for their recommender systems, in order to be utilised on a mass marketing scale. My successful mapping of this theory contributed a new perspective to the ongoing sociotechnical studies of the granular processes within the operationalisation of music on Spotify, and how tracks are transformed into entities which are suitable for mass consumption (Eriksson et al., 2019; Johansson et al., 2017; Katz, 2010; Prey, 2020; Hagen, 2015; Jansson, 2021; Webster, 2020).

7.3.3 Addressing Gaps in Streaming Research Demographics

According to reports, 60% of Spotify's entire user base are under 29 (Eser, 2024). Additionally, previous studies by Johansson et al. (2017) highlighted the preference to conduct streaming research on younger teenage and student level cohorts, where music streaming research typically reflects the views of younger teenage individuals and students using the service. In response, my study has actively contributed to addressing these demographic gaps in music streaming research by including a more diverse group of ages within my participant pool, the majority of my participants being in the 30-40 age bracket (as shown in section 3.6.1). My study's data subjects also come from an assortment of occupations and backgrounds, again challenging the traditional saturations of younger adults and students in music streaming research (section 3.6.2 - 3.6.3). As a result, my study's data and research design have successfully contributed to the diversification of data subject demographics in music streaming research, by intentionally including the viewpoints of groups and generations who are less vocal or visible in streaming studies (Johansson et al., 2017).

7.3.4 Addition of New Perspectives

As showcased by my research design and findings, my study has successfully combined two distant strands of examination: Spotify's music operationalisation and presentation with users' engagement and experiences, successfully creating a uniquely fused perspective as to how the cultural artefact of music is engaged with. By synthesising the technical and user perspective, I have contributed new research through intersectional methods, rather than researching these

areas independently, or traditionally as separate entities (Gioia, 2019; Morris, 2020; Spilker, 2018; Eriksson, 2019; Johansson, 2017; Salo et al., 2013; Wikström, 2020).

This study has contributed to ongoing academic exploration of the impact of technology on the creative arts, including music and its modern issues around topics such as originality, autonomy, culture, and experience (Hagen, 2016; Eriksson, 2020; DCMS (a), 2021; Jansson, 2021). As a result, I have provided a new evidence-based perspective on the ways in music streaming has become embedded in users' everyday lives, consequently shaping music into a utility in the modern streaming era and impacting those who use it to varying levels. In doing this, my analysis has explored the shaping of technology on society and creative and cultural media, and the priority of convenience, contributing to wider ongoing discussions in Humanities and Web Science-based research.

Additionally, the perspectives provided from my qualitative work (in Chapters 5 and 6) have created a collection of grounded empirical insights which crucially contribute to understanding the human decisions towards the uptake and rejection of various personalisation and musical features which Spotify offers. These evidenced insights hold impact in both academic and commercial settings, as they actively challenge exaggerated concepts of music streaming effects. Furthermore, they introduce new vital understandings of user behaviours and identities in the digital landscape: demonstrating users' needs for self-direction, control, flexibility, and autonomy in music streaming.

7.3.5 The Introduction of Diversity in Stakeholder Experience

Through diverse utilisation of quantitative and qualitative datasets, I successfully introduced and merged the qualitative experiences of independent musicians into relevant areas of interviewee enquiry, exploring the division in experiences between the consumers and musicians who use Spotify (as shown in sections 6.2-6.4). By merging these musicians' experiences into a study with user experiences (where users were also encouraged to reflect on experiences other than their own), my research successfully contributes to ongoing efforts to close established academic gaps between musician and consumer expectations and issues, providing a contrast to traditional studies which tend to separate artists and consumers as if they are mutually exclusive entities (Vonderau, 2019; Pullar, 2022; Webster, 2020; Hayes, 2006; Hagen, 2016; Hodgson, 2021; Morris, 2020). In addition to this, by empirically conveying the reality of independent musicians' experiences in the streaming landscape, my work has also actively contributed to the ongoing discussions and exploration into the policy landscape surrounding the economics of music streaming and the future of the music industry (DCMS(b), 2021; CMA 2022).

The interdisciplinary research demonstrated within my thesis has shown its contribution to an ongoing and important academic area of study around the uptake, use and impact of music streaming platforms like Spotify on a variety of stakeholders. However, through this work I have also contributed original research methodologies and new empirical findings into to the wider discussions being held around music streaming at the intersection of digital musicology, sociology and even computer science.

7.4 Outlook

In the preliminary stages of this project, it was posited that my research objective was to consider how music streaming platforms had changed users' understandings of music genre and categories. However, upon continuation of this research and in the analysis of the findings presented, it was clear that there were a number of human-centric topics of discussion which required more academic focus and prioritisation, which resulted in shifting my focus to explore users' engagement with music as a result of their own facilitations, in combination with Spotify's cultivated musical landscape. As concluded, music streaming platforms like Spotify have successfully created an intangible atmosphere with limitless access, where they trial their own proprietary technologies in shaping how users can access, discover, and share music.

In addition to my aforementioned conclusions, it is clear that there is much still to be academically explored at this intersection of the fields of Musicology, Social Science and Computer Science with regard to user-centric impact and music streaming platform infrastructures. This section briefly outlines a number of areas which I could not develop fully within my research but propose to be valuable areas of future study.

7.4.1 Exploring the Strength of Commitment to Music Streaming

Findings from my interviewee data indicated that users (musicians and non-musicians) are aware (to varying degrees) of the issues facing stakeholders in the music industry. Users who were not artists were more likely to be unaware of the public controversies.

However, of those users who were aware of such controversies, there was a collective attitude of reluctance to discontinue streaming due to the convenience and economical value for money. In my reflection of this research and the subscription economy which dominates media and entertainment forms, the discovery of such a collective reluctance signals the first significant social area for further investigation. A deeper examination is required of the factors and mentalities around user commitment to music streaming platforms and the wider

streaming economy, even in the face of public controversies around streaming's socio-technical impact.

7.4.2 Understanding Streaming's Impact on Everyday Lifestyles

It was evident from my interviewee data, that a user's lifestyle and daily commitments influences the level of time which they will spend on Spotify. However, the true impact of this digital exposure on a daily basis, and its effects on music listening are still not fully known. Therefore, further examination around intensive music streaming users may provide deeper insight into the technical and social habits fuelling this active group of streamers.

Many interviewees explained that they utilised the platform for several hours a day, making it clear that further exploration is additionally needed around the influence of music streaming on other lifestyle areas, user identities and musical tastes, as platforms like Spotify continue to succeed and evolve through their portability and device compatibility features. The findings from my research represent an example of socio-technical exploration but encourages even further research using these practices. By utilising the lawful basis of consent, it is evident that more could be achieved through the use of the Spotify API – should a future researcher wish to study user playlists and their influence in a user's daily practices.

7.4.2.1 Questions of Generational Impact and Social Media

As highlighted previously in my research (Chapter 6), concern was raised as to how younger users and generations, who have never owned physical collections, may be affected in their relationship to music and music listening. I propose that in order to understand this, further investigations need to be had into the relationships between younger generations, social media, and streaming, as my findings showed robust connections between Spotify use and sharing to social media. Users are able to share their favourite music tracks to platform such as Instagram and Facebook as a way of expression and discover music on these platforms through other users and audio trends. These trends have taken on an evolved role through the evolutions of social media platforms, guiding different groups of users to gather around the same online movements. Therefore, it is clear that future work will be needed to further examine the social media landscape and understand how these differing platform infrastructures overlap. However, not only will the algorithms need to be investigated to understand the importance of music in social media movements and trends, but the influence garnered by users in their ability to create completely new movements through collectively interacting with segments of music.

7.4.3 The Role and Future of Music in the 21st Century

As shown from this research, paying subscribers are able to access a seemingly unlimited number of playlists which are crafted for every possible occasion. Musicological investigations into the impacts of streaming may benefit from understanding how specific musical knowledge and interpretations are being impacted by the presence and promotion of millions of platform-based playlists. This research area relates to ideas from the original aims of this project and could include deeper discussions around music genre and the potential devaluation of its traditionally cultural values in the music streaming landscape.

In addition to streaming's impact, my research identified Spotify's continuous investment evolution of personalisation and technologies, including the introduction of podcasts and audiobooks. This in turn, raises questions around the future of Spotify as a platform. As a platform, Spotify differs out from many of its competitors due to its positioning of music and audio as its focused product, whereas Apple and Amazon embed music within a number of other services. In reflection of this, I propose the need for an exploration of this plausible future: where all music streaming platforms move from being isolated audio services, into all encompassing, multi-functional platforms such as Amazon, Apple or We-Chat, and the possible effects for the music industry and its stakeholders.

7.4.4 The Experiences of Musicians

I found that 43% of interviewees identified as active musicians, and when asked about their experiences and opinions of utilising Spotify, there were notable differences in tone and focus between artists and managers. Although musicians have more data-led insight into their audiences than ever before, their responses collectively featured resounding themes of futility: focusing on issues which threatened creativity processes, identity, and remuneration. In contrast, A&R managers gave more pragmatic responses, focusing more on the shift in musical format and playlist operations. As a reflection on these differing attitudes, there is a need to seek new understanding around how the collective presence and acceptance of streaming platform operations are influencing and affecting the development of music industry conduct.

Due to societal uptake and platform popularity, many independent artists find themselves being forced into uploading their work onto a platform where they must compete with numerical rankings and figuring out how to connect with desired audiences through algorithmic gamifying. Therefore, an essential strand of social research is required, into understanding how streaming platforms are impacting the wellbeing of artists within the landscape, and how this is changing the way in which they create for the purpose of algorithmic uptake and Spotify success.

7.5 Closing Remarks

It can be concluded from my research that Spotify's vastly populated and powerful interface operationalises and promotes music through abundant levels of playlists, in its attempts to address every facet of the human experience. The on-demand, intangible permeation of music into the everyday lives of consumers, has empowered users to develop a 'luxury-to-utility' mindset, which has both positive and negative connotations for the user's physical and emotional listening habits and their expectations of music. My research shows that Spotify users actively navigate and embed the platform into their livelihoods, resulting in their streaming taking place within increasingly diverse social, professional, and functional environments. This as a result, leads numerous users to create playlists which adhere to their lifestyle choices, reinforcing the cycle of commitment to streaming. However, this result of utilising Spotify as an on-demand, unlimited cataloguing resource, has caused a dramatic mental shift of user association and expectations of music, which – for many – has come at the expensive cost of musical connection and enjoyment.

This research has successfully contributed theoretically, methodologically, and demographically to a number of ongoing dialogues within the wider music streaming research landscape. However, the results drawn from my interdisciplinary study clarify that further research is essential to fully understand the impact of the powerful phenomenon that is music streaming on its users, musicians, and stakeholders of the wider music industry as a whole.

Appendix A List of Foundational Interview Questions

Below is the list of foundational interview questions used in my study.⁴⁴

Introduce self and remind participant of the nature of the study, the process and remind that participant can withdraw consent at any time

- Why did you choose Spotify?
- How often do you use the platform?
- In what environments do you find yourself streaming music?
 - a. Do you use Spotify for specific activities?
- How do you use Spotify to search for new music?
 - a. Do you use the search and discovery specific playlists and/or features?
- Do you ever search for music by genre?
 - a. Encourage participant to explain alternative methods and reasons.
- How do you find the Spotify recommendations that you receive?
- Do you interact with specific playlists from Spotify?
 - a. Do you ever create or organise your own playlists?
 - b. What kind of playlists have you made?
- Do you share your music?
- What are your views on the algorithms that these Spotify uses?
- How has using Spotify impacted your listening experience or habits?
- How would you improve these music streaming platforms?
 - a. Encourage clarity on the themes of improvement (e.g., musical, social, financial, visual, political...)
- What could cause you to stop streaming?

***Thank participant for taking part and remind them that they can withdraw consent at any time between collection and submission of final study (thesis). Remind participant that they can contact you for the final results of the study if they so wish. ***

⁴⁴ During to these interviews, a variety of tangents arose which are not depicted in the questions below (due to the semi-structured format). These included discussions on the public scrutiny of music streaming platforms, deeper remuneration issues, class issues, thoughts on technology in the arts in general, and discussion around other streaming platforms.

Appendix B Bulletin Used on Social Media

An image of the social media bulletin used to recruit participants for my research. Circulated online during September 2021 on Twitter, Facebook, LinkedIn, and Instagram.

Appendix C Participant Information Sheet Excerpt

An excerpt from the participation information sheet sent to individuals who were interested in taking part in the study. Please note that the title of the study has since changed.



Participant Information Sheet

Study Title: EXAMINING THE EVOLVING ROLE OF MUSIC PERCEPTION WITHIN MUSIC STREAMING PLATFORMS: Interviews of Music Streaming Service Users

Researcher: ALLISON NOBLE
ERGO number: 62170

You are being invited to take part in the above research study. To help you decide whether you would like to take part or not, it is important that you understand why the research is being done and what it will involve. Please read the information below carefully and ask questions if anything is not clear or you would like more information before you decide to take part in this research. You may like to discuss it with others but it is up to you to decide whether or not to take part. If you are happy to participate you will be asked to sign a consent form.

What is the research about?

This project is conducted in the context of my doctoral research which focuses on the impact of music streaming platforms on the user's perception of music. This project focuses specifically on examining how streaming services' methods of categorising and marketing music is affecting music industry stakeholders and music perception. Part of this is to be done by exploring the viewpoints and experiences of participants – preferably through collecting interview data that reflects geographic, social, musical, and professional diversity. The aim of this research is to analyse these popular platforms which are featuring in the everyday lives of billions, reinforcing the importance of questioning these services, their features and their impacts. This research is funded by the EPSRC (Engineering and Physical Sciences Research Council).

Why have I been asked to participate?

You have been asked to participate in this group as you have shown interest in the advertisement featured on social media for this study. You are also being asked due to your eligibility as a regular user of the music streaming service Spotify and you are over the age of 18.

What will happen to me if I take part?


After reading this participant information sheet, the consent form, and the interview topic guide - if you still wish to take part, **please sign the consent form and send these back to my email at a.i.noble@soton.ac.uk.**

After sending back over the signed consent form, you will be contacted to arrange a date and time and preferred platform for an online interview that is suitable for your schedule. You will also be contacted by me again via email two days before the interview with a meeting/session/online link to the interview and a reminder of what processes will be happening in the interview.

You will be interviewed once online for around 30 minutes over an online platform of your choice such as Teams, Skype or Zoom. **Teams will be the preferable option**, but it is your choice – whatever works best for you. Your information and data will be anonymised as part of this study and you can withdraw your involvement at any time between the time of interview and the submission of the research thesis in 2022-23 (date of submission to be confirmed). You can also contact me for a final version of the study results in final form of the submitted thesis. **The interview will consist of mandatory audio recording and optional video camera use.** The reason that I am recording these interviews is so that I am able to revisit the data in the case of future revisions or new inputs. Your consent form will require specific consent for these recordings. The interview audio will be used to support the other research techniques used within this study. **These recordings will be destroyed shortly after transcription.**

Appendix D Participant Consent Form Example

An image of the consent form which was sent to individuals who had read the participation information sheet and were still interested taking part in the study.



CONSENT FORM

Study title: EXAMINING THE EVOLVING ROLE OF MUSIC GENRE WITHIN MUSIC STREAMING PLATFORMS

Researcher name: ALLISON
ERGO number: 62170
Participant Identification Number (if applicable):

Please initial the box(es) if you agree with the statement(s):

I have read and understood the information sheet 23.05.2/Participant information sheet V1.0 and have had the opportunity to ask questions about the study.	
I agree to take part in this research project and agree for my data to be used for the purpose of this study.	
I understand my participation is voluntary and I may withdraw at any time for any reason without my participation rights being affected.	
I understand that taking part in the study involves audio/video recording which will be transcribed and then destroyed for the purposes set out in the participation information sheet.	
I understand that I may be quoted directly in reports of the research but that I will not be directly identified (e.g. that my name will not be used).	

Name of participant (print name)

Signature of participant.....

Date.....

Appendix E Coding Segments

E.1 The code used to access the Spotify API and retrieve the playlist data and genre seeds data (retrieved August 2023)

```
#import spotipy
#from spotipy.oauth2 import SpotifyClientCredentials

auth_manager = SpotifyClientCredentials(*generated personal key*,
client_secret=(*generated secret client key*))
sp = spotipy.Spotify(auth_manager=auth_manager)
playlists = sp.user_playlist('spotify')          while playlists:
    for i, playlist in enumerate(playlists['items']):
        print("%4d %s %s" % (i + 1 + playlists['offset'], playlist['uri'], playlist['name']))
    if playlists['next']:
        playlists = sp.next(playlists)
    else:
        playlists = None

with open("spotify genres.txt", "w") as output:
    for i, genre in enumerate (sp.recommendation_genre_seeds()["genre"]):
        output.write("{0}\t{1}\n".format(i + 1, genre))
```

E.2 Code used to test the ‘genres’ returned for country artist Dolly Parton (retrieved August 2023)

```
import spotipy
from spotipy.oauth2 import SpotifyClientCredentials
auth_manager = SpotifyClientCredentials(client_id='*generated key*',
client_secret='*generated client key*')
sp = spotipy.Spotify(auth_manager=auth_manager)
artist_info = "spotify:artist:32vWCbZh8xZ4o9gkz4PsEU?si=edYFTcjTRZyKPL8zJKIWLQ"
artist = sp.artist(artist_info)
print(sp.artist(artist_info))
```

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