Popular Music (2025), 1–19
doi:10.1017/S0261143025000273

CAMBRIDGE UNIVERSITY PRESS

ARTICLE

The Social Life of an Optimised Song: Reconstructing the Networked Cycle of Digital Music-Making

Massimiliano Raffa[1] and Riccardo Pronzato[2]

[1]Department of Law, Economics and Cultures, University of Insubria, Como, Italy and [2]Department of Sociology and Business Law, University of Bologna, Bologna, Italy
Corresponding author: Massimiliano Raffa; Email: massimiliano.raffa@uninsubria.it

Abstract

Music streaming platforms are complex socio-technical infrastructures that co-construct cultural production, distribution, and reception. Different contributions have highlighted that artists, producers, and operators may implement optimisation processes, based on their algorithmic imaginaries, to align their music to the modes of listening and categorisation imposed by algorithmic media. Drawing on thirty-nine semi-structured interviews with producers, songwriters, recording industry professionals, and listeners who are heavy users of streaming platforms, this paper reconstructs the social life of a platform-optimised song. Bridging perspectives from science and technology studies and media studies, we investigate the network of relations between human and non-human actors that contribute to the circulation of a platform-optimised song during a four-phase life cycle: creation, industry mediation, platform mediation, and reception. The findings highlight multiple forms of power asymmetries at each stage, recursive dynamics, the erosion of artistic autonomy, and the collaboration of humans and non-human agents to transform music tracks into datafied products.

Keywords: music industries; music production; music streaming; songwriting; science and technology studies

1. Introduction

Music streaming services such as Spotify, Apple Music, YouTube Music, and Amazon Music have fundamentally reconfigured the production, distribution, and reception paradigms of recorded music. As key elements of the contemporary music ecosystem, these platforms have established novel patterns of engagement with musical content whilst simultaneously reshaping industry practices, operating as powerful gatekeepers (Bonini and Gandini 2019; Prey 2020; Seaver 2022). As digital infrastructures become increasingly optimised to foster datafication processes and user retention, different contributions have argued that artists may have to cope with growing pressure to adapt their work to platform-specific algorithms and recommendation systems, influencing both the creative and technical dimensions of music production (e.g., Raffa 2024a).

In this context, Morris' (2020) notion of 'cultural optimisation' has emerged as a conceptual framework to elucidate the tendency towards adapting musical content to better perform within algorithmic media environments. While the practice of tailoring music to evolving technologies and distribution systems is not without historical precedent (Katz 2004), the

advent of streaming services – and more specifically, the datafication and algorithmic processes underpinning their operation – has transformed this optimisation practice into a fundamentally distinct phenomenon. It has introduced a dynamic, continuous feedback loop into the creative process, engendering a new paradigm of platform-optimised music. Central to this transformation are 'algorithmic imaginaries' (Bucher 2018), which encapsulate the experiential worlds and speculative understandings that users construct around algorithmic media and their associated metrics. These interpretations of algorithmic functioning may profoundly inform production processes, reshaping the very conceptualisation, creation, and dissemination of music, thereby exerting a significant impact on cultural production (Raffa and Pronzato 2021).

In examining the phenomenon of musical optimisation for digital platforms, we must first address a fundamental question: What constitutes a 'song' in contemporary platform culture? Building upon Morris (2020), we propose a reconceptualisation of the song that transcends traditional definitions centred purely on sonic artefacts. The song, whilst remaining the predominant form in contemporary popular music (Mauch *et al.* 2015; Rolison and Edworthy 2013), must be understood not merely in terms of its acoustic materiality, but rather as the result of a complex socio-technical assemblage, emerging as a distributed entity whose identity and value are continuously negotiated through intricate networks of human and non-human actors (Born and Barry 2018). This theoretical reframing, inspired by Latour (2005) and contemporary science and technology studies (STS) scholars (Giardullo 2016; Magaudda *et al.* 2016), allows us to conceptualise the optimised song as an assembled, multiple artefact, moving through a dynamic assemblage encompassing multiple dimensions: its compositional and sonic elements certainly, but equally its metadata architecture, platform metrics, algorithmic positioning, curatorial framings, promotional narratives, and audiences' interpretive inferences. In our view, these elements do not merely surround or support the song; they are constitutive of its very nature as a cultural object. In this light, optimisation emerges not as a process applied to a pre-existing stable object but as a fundamental condition of the song's existence within contemporary digital culture. This conceptual framework enables us to trace various forms of platform-specific optimisation – whether algorithmic, curatorial, or promotional – and better understand how musical artefacts are being reconfigured within platform capitalism's socio-technical arrangements.

Within this framework, this contribution endeavours to reconstruct the 'social life' (Appadurai 1986; Magaudda *et al.* 2016) of a platform-optimised song, bridging perspectives from STS and media studies. Specifically, our objective is to examine the life cycle of a musical product, from its creation to its reception. In particular, we aim to reconstruct the network of relations between human and non-human actors that contribute to the circulation of a platform-optimised song during a four-phase life cycle, partially based on Hirsch's (1972) traditional supply chain model: 'creation' (when a song is produced), 'industry mediation' (when it is prepared for publication), 'platform mediation' (when it is disseminated), and 'audience reception' (when it is listened to on streaming services). To this end, we draw upon thirty-nine in-depth semi-structured interviews with various professionals in the recorded music industry, including producers, songwriters, music listeners, and operators in the recording industry.

The findings show several forms of power asymmetries manifest in the creative, industrial, platform, and consumption stages characterising the social life of an optimised song. Different human and non-human actors work to transmute musical compositions into datafied commodities. In this context, artists, producers, and industry professionals increasingly align their works with the formats favoured by algorithmic processes, guided by their algorithmic imaginaries and showing an increasing dependence on data-driven decision-making processes. Ultimately, a song's success hinges upon its adaptability within an intricate network of human and non-human actors, which collectively shapes its commercial and cultural valuation.

https://doi.org/10.1017/S0261143025000273 Published online by Cambridge University Press

2. Platforms and the optimisation of music

Music streaming platforms are more than mere conduits for music consumption; they represent critical, socio-technical infrastructures that co-construct cultural production, distribution, and consumption in ways that may reinforce existing power dynamics while simultaneously creating a semblance of artistic empowerment for both music-makers and users. These algorithmic media operate as gatekeepers within cultural industries (Bonini and Gandini 2019; Hesmondhalgh and Meier 2017; Hodgson 2021; Negus 2018), controlling access to vast music catalogues and, by extension, shaping the conditions under which cultural goods are produced and consumed (Poell *et al.* 2021). Nevertheless, algorithms are not neutral entities, as they are designed to maximise user engagement and retention, thus serving the economic imperatives of platform owners and investors (Prey *et al.* 2020; Seaver 2019). As a result, artists, particularly those who operate outside of the dominant genres or lack significant financial backing, increasingly depend on these platforms for exposure and income. However, the compensation models employed by most streaming platforms, which typically pay artists fractions of a cent per stream, seem to reinforce existing inequalities within the music industry (Marshall 2015). This infrastructural power of streaming services is built upon a complex assemblage of technologies, including cloud computing, data analytics, and machine learning, which facilitate the seamless delivery of music to users (Seaver 2022).

Recently, the concept of 'cultural optimisation' has emerged as a critical notion, encapsulating the tendency of artists and content producers to tailor their music based on projected performance metrics on digital platforms (Kiberg 2023; Morris 2020; Polak and Schaap 2024; Raffa and Pronzato 2021). Since sound recording began, music creators have adapted to evolving technologies and media systems (Katz 2004, 2006), tailoring their work to formats such as vinyl, radio, and CDs. However, datafication has fundamentally changed this optimisation, by transforming listeners' behaviour and music tracks into quantifiable data for algorithmic analysis (Van Dijck *et al.* 2018) and, in turn, shaping how music is discovered and valued (Prey 2020). Unlike earlier media, datafication introduces a continuous feedback loop, requiring creators to strategically optimise their music for real-time algorithmic engagement (Raffa 2024a). This shift introduces technical and strategic complexities and reshapes the entire lifecycle of content production and consumption.

Specifically, all participants in the music production process engage in what can be termed 'algorithmic imaginaries' (Bucher 2018). These imaginaries represent the experiential worlds and interpretive processes that users construct around algorithmic media, their functioning and metrics. Through their 'imagined affordances' (Nagy and Neff 2015), artists, producers, and industry operators develop a nuanced and speculative understanding of platform dynamics, interpreting algorithms' opaque functioning to anticipate what might be favoured or penalised. This evolving awareness influences creative and dissemination processes. Musicians, producers, and even listeners are all part of a network that must manage and adapt to the constraints and opportunities presented by digital platforms and their displayed numbers. These adaptations can include altering musical styles, modifying lyrics and song structures, equalising tracks in specific ways, or using data-driven insights to guide artistic decisions (Morris 2020; Morris *et al.* 2021).

Simultaneously, listeners engage with content through the lenses provided by these platforms, such as curated playlists or recommendation systems, which simultaneously extract their data. This reciprocal influence highlights how digital culture and, more specifically, music production are the result of the collaborative efforts and negotiations of a network of actors functioning in an 'art world' within which individuals operate under a set of material, normative, linguistic, behavioural, technical, and economic constraints that collectively define the conventional boundaries (Becker 1974, 1982). Similarly, the worlds of

https://doi.org/10.1017/S0261143025000273 Published online by Cambridge University Press

reception are governed by their own conventions and systems of expectations. Thus, when analysing cultural optimisation, it is essential to adopt a perspective that recognises the complex journey of a musical product, such as a song – the most common form in the context of popular music.

3. The social life of objects

To reconstruct the network of actors that contribute to the various stages of production, distribution, and reception of a musical product, we draw on Appadurai's (1986) concept of the 'social life of things'. The author challenged the traditional economic view of objects as mere commodities with a fixed value. Just like people, objects have 'biographies', and their value, function, and meaning change over time, as they circulate through different social contexts and cultural settings. Hence, objects are not just passive, as they participate in social life, influencing relationships, status, and power dynamics (Bates 2012; Born and Barry 2018).

The importance given to the materiality of artefacts and the different actors involved in their circulation has been key a pillar of STS for more than three decades, also in their intersection with communication studies (see Bonini and Magaudda 2023; Magaudda *et al.* 2016). In this sense, a key intuition of STS scholars has been to understand social life as 'the socio-material product of heterogeneous arrays of relations, involving human as well as non-human agents' (Airoldi 2021, p. 3). Expanding on Latour (2005, p. 5), who defined 'the social' as 'a trail of *associations* between heterogeneous elements' and '*a type of connection* between things', and his actor-network theory (ANT), STS have focused on the interconnected relationships between diverse elements that contribute to form socio-technical assemblages, that is, complex networks where agency is distributed across both humans and non-humans. In particular, as explained by Franco *et al.* (2022), assemblage-inspired thinking draws on five common tenets: (1) objects are relationally constructed; (2) objects affect each other in assemblages; (3) objects are in process, that is, unstable; (4) assembled objects are multiple, that is, differently constructed in different contexts; and (5) assemblages are scalar, that is, potentially infinite; thus, it is the researcher who must decide how and when to finish expanding the network.

Although ANT has not escaped considerable criticism (e.g., Cerulo 2009), conceptualising non-humans as actors exerting agency, and agency as a relational and distributed ability, it allowed researchers to scrutinise in-depth the implications of socio-material artefacts in social life (Giardullo 2016). This assemblage-inspired thinking has expanded within the social sciences in different research areas (Franco *et al.* 2022; Gillespie 2016), even in music scholarship (Hennion and Levaux 2021).

Within this framework, the 'optimised song' can be viewed not only as a meticulously crafted commodity to succeed within algorithmic and data-driven environments, but also as the result of a heterogeneous network of relationships involving both human and non-human actors and diverse forms of agency. As will become clear in the following paragraphs, the optimised song travels through different stages of production and reception, and its meaning and value shift according to the context. Its social life is heavily influenced by industry and platform logic, the preferences of listeners, the functioning of recommendation algorithms, and user engagement metrics (Morris *et al.* 2021; O'Dair and Fry 2020), as well as the interaction with different technological frameworks in different phases of its realisation.

4. Methodology

This paper aims to reconstruct the social life of a platform-optimised song. To reconstruct the network of relations between human and non-human actors, along with their respective

https://doi.org/10.1017/S0261143025000273 Published online by Cambridge University Press

constraints, that contribute to the circulation of a platform-optimised song, we focused on a four-phase life cycle: 'creation', 'industry mediation', 'platform mediation', and 'audience reception' (Hirsch 1972).

Methodologically, this paper draws on a qualitative approach. Specifically, thirty-nine in-depth semi-structured interviews were conducted on a sample composed of fifteen producers and songwriters, twelve heavy platform users, and twelve operators in the record industry. Semi-structured expert interviews were conducted to investigate how different actors experience and negotiate the relationship between music production, distribution, and reception in the platform environment whilst allowing flexibility to explore emergent topics in participants' experiences. The interview protocol explored several interconnected areas: the transformation of creative practices (songwriting approaches, production techniques, and studio workflows); industry mediation processes (A&R strategies, marketing decisions, and release planning); platform-specific considerations (such as playlist pitching, algorithmic optimisation, and metadata management); and changing dynamics of music reception (listening practices and evaluation criteria). For producers and songwriters, particular attention was paid to their decision-making processes in composition and production, their understanding and response to platform metrics, and their adaptation to streaming-specific technical requirements. Industry professionals were questioned about their role in preparing and positioning music for platform success, their use of data analytics, and their strategies for navigating algorithmic distribution systems. Interviews with heavy platform users focused on their experience of platform-mediated music consumption, perceptions of optimised content, and reflections on how streaming services affect music appreciation and evaluation.

The interviews were conducted in Italy between September 2021 and July 2023. Each interview lasted between 45 and 70 minutes and was conducted either in person or via videoconferencing software. Criterion sampling was used to select informants (Creswell and Poth 2018). To participate, producers and songwriters were required to meet two criteria: first, they must have attained a minimum of 1 million streams on the Spotify platform, the most popular streaming platform in Italy; second, they must have either received a gold certification or achieved a position on the national top-100 sales charts with compositions or productions of their own creation. The category of heavy users comprised postgraduate and doctoral students enrolled in music-related disciplines who were heavy users of Spotify's premium service and had internship experiences in the music industry. These participants possess both high cultural capital in music consumption and extensive practical experience with streaming platforms. This combination allowed them to articulate how platform optimisation practices affect aesthetic judgements and listening habits, while their background in music-related disciplines enabled them to critically reflect on the broader cultural implications of algorithmic music distribution (Raffa 2024b). Additionally, the study included various professionals from the recording industry, such as Public Relations (PR) specialists, artist managers, A&R managers, data analysts, and other subjects involved in the selection and management of music products. The industry professionals were recruited primarily from the mainstream music sector, operating across major record labels, prominent independent labels, and digital distribution companies.

Our research primarily focused on what industry operators identify as mainstream commercial repertoires, specifically what our participants consistently categorised as 'pop' (comprising mainstream Italian melodic song) and 'urban' (encompassing rap, trap, and contemporary R&B). Whilst these categorisations may lack musicological precision, they reflect the operational taxonomies employed within the commercial music industry (FIMI 2024), and were consistently utilised by our informants to describe their work. This focus on mainstream commercial music production is deliberate. Unlike independent or alternative music scenes – where different relationships with platform capitalism and

https://doi.org/10.1017/S0261143025000273 Published online by Cambridge University Press

artistic autonomy might prevail (Bennett and Rogers 2016) – mainstream commercial production operates within a highly professionalised environment where optimisation for platform success is often an explicit priority (Negus 2018). Our interviewees primarily work within the mainstream music industry, where platform visibility and commercial performance metrics are primary concerns (Jones 2021).

Following informed consent procedures, all interviews were audio-recorded, transcribed verbatim, and anonymised. The interview transcripts were analysed using a systematic thematic analysis approach, guided by constructivist grounded theory principles (Brewer and Miller 2003). To ensure analytical rigour, we employed constant comparative analysis across the three participant groups, systematically documenting similarities and differences in their perspectives on platform optimisation. The analysis was supported by memo-writing throughout the coding process, which helped track the development of theoretical insights and maintain analytical transparency.

5. The social life of an optimised song

In this section, we examine the lifecycle of an optimised song, tracing its journey through four stages. This lifecycle is not merely a sequence of events but a networked and recursive process, reflecting the complex socio-technical landscape in which contemporary music is produced, disseminated, and consumed.

Throughout this lifecycle, there is a complex interplay of human and non-human actors operating within a framework of diverse constraints, which form a horizon of expectations influencing how songs are created, mediated, and experienced.

5.1. Creative practice stage

While the birthplace of a song is often romanticised with the scene of a songwriter – sitting alone with an instrument, perhaps humming a melody or scribbling down lyrics – the process begins long before and extends far beyond this solitary moment. Once the songwriter has a rough idea – a melody, a hook, or a verse – they enter into a collaborative process that will transform this initial spark into a fully realised piece of music. The birth of a song, in fact, is a multidimensional process deeply embedded in a web of social relations – involving humans and non-humans, cultural influences, technological artefacts, and 'sonic imaginaries' (Mooney and Pinch 2021; Negus and Pickering 2004; Stokes 2007).

Whilst technologies have invariably been instrumental in the creative process, the rise of digital platforms represents a fundamental transformation in the relationship between composition and production. The industrialisation of songwriting has a rich history – from the professional songwriting teams of New York's Tin Pan Alley in the late-nineteenth and early-twentieth centuries, where composers and lyricists collaborated to produce sheet music for the burgeoning publishing industry, through to the Brill Building model of the 1950s and 1960s, where couples of writers crafted popular music in a quasi-industrial setting, and subsequently to the Swedish pop factories of the 1990s and early 2000s, where producer-led teams systematically engineered global hits (Seabrook 2015) – yet contemporary practices reflect a markedly different approach to creative collaboration. As these interviewees said:

> I take part in loads of sessions set up by [major label]. Sometimes you've got two or even three producers in the room, plus maybe someone who's more of a musician, and sometimes the artist too. Someone throws in a sample, another comes up with a riff, someone else works on the top line. By the end of the day, you've got to have a track

https://doi.org/10.1017/S0261143025000273 Published online by Cambridge University Press

> sorted. [...] That's why you end up seeing loads of producers credited when really they might've just laid down three guitar notes and sampled them. (Songwriter, personal interview)

> You've got to make a track with another songwriter or artist in a day or even half a day. You pull the track together in a day, often nicking bits from here and there, like putting together a jigsaw. [...] More often than not, I come prepared, I've got my folder of productions ready to play to the writers or artists, and depending what sort of mood they're in, they'll pick one and have a crack at writing over it. (Mainstream producer, personal interview)

In these excerpts, two significant developments emerge. First, there has been a dramatic shift in crediting practices, with producers increasingly assuming formal songwriting responsibilities. A growing number of producers sign exclusive contracts with music publishing houses and receive expanded credits on tracks, often for minimal contributions to the composition process (Dalla Riva 2023). Second, our informants report that songwriting sessions have become increasingly compressed, with songwriters frequently creating tracks in single-day sessions using pre-existing samples and digital tools specifically to complete songs quickly. These contemporary sessions operate in an assembly-line fashion, with participants swiftly combining and manipulating digital elements to create marketable products. The expansion of writing credits and the acceleration of the creative process reflect a fundamental shift towards an approach to songwriting that is increasingly automated, technologically mediated, and fundamentally shaped by the calculative logic of digital platforms and software technologies.

> You're expected to meet these rigid output targets that you can only achieve if production basically becomes like a factory assembly line. You've always got to remember who listens to pop music nowadays. It's not some connoisseur going to a Michelin-starred restaurant; [...] it's kids nipping to McDonald's. The songs have to be like McDonalds burgers. [...] Same recipe, same appearance, meant to be consumed quickly because... who's going to notice the quality when they're listening through their phone anyway? (Mainstream producer and songwriter, personal interview)

> Sometimes I think I should pack it in and work with Indies, at least there you can spend proper time on a track without some executive breathing down your neck about TikTok numbers. (Mainstream producer, personal interview)

These examples bring us to Polak and Schaap's (2024) four logics for describing the relationship between musicians and the music landscape. The 'pure artistic logic' emphasises creative autonomy, resisting commercial pressures with the belief that quality will naturally attract audiences. The 'post-artistic logic' maintains artistic integrity initially but allows for later modifications to optimise for digital platforms. The 'commercial logic' focuses on crafting music tailored to digital platforms, typically for external projects. Finally, the 'implicit commercial logic' recognises the inevitable influence of commercial trends on creative work, highlighting the blurred boundaries between artistic independence and market-driven production. Our interviewees generally worked within the mainstream music industry, where the 'commercial' logic is particularly stringent. In this context, optimisation pressures shape the way music is crafted, often resulting in significant adjustments to align with platform algorithms and audience expectations. Even those operating also in independent or alternative scenes, such as garage rock or psychedelic rock – where these optimisation pressures are considerably less intense – implement

https://doi.org/10.1017/S0261143025000273 Published online by Cambridge University Press

structural adjustments to ensure the broad circulation of their music on digital platforms and inclusion in dedicated playlists, showing that forms of optimisation are observable across different genres.

> I'm increasingly being asked to put the chorus at the start of tracks. That didn't happen so often before. These days you need to grab attention immediately. Not just from the audience who aren't listening carefully, but from Spotify editors too. (Mainstream producer and songwriter, personal interview)

> When you're producing a track you've got to think first about where it ends up. For instance, I tend to make a lot of tracks at a tempo between 122 and 128 bpm because at that speed, eight bars of chorus takes about 15 seconds, [...] exactly the length of an Instagram story. (Mainstream producer and songwriter, personal interview)

> Yesterday I had an artist in the studio, we were reviewing a mix and couldn't decide between two drum beats. Then the artist threw me this curveball question: 'which one would work better in an average TikTok post?'. So we ended up scrolling through TikTok and noticed there are certain recurring sound characteristics, and made our decision based on that. (Mainstream producer, personal interview)

These interviewees generally agree that the dissemination channels for cultural materials significantly impact how music is composed and recorded, crafting their work to fit the editorial playlists or meet social media affordances. In addition, these interviewees stated:

> The good thing is that Spotify metrics are fairly easy to replicate. Once you understand the key element, you can repeat the same thing without starting the whole process from scratch. (Mainstream producer, personal interview)

> If you want a piece that you know the Spotify algorithm wants in a certain way, you can equalise the bass, choose the drum beats, and always compress the vocals using the same presets. (Mainstream producer and songwriter, personal interview)

The interviewees also highlighted that industry pressures to produce content rapidly, technologies' ability to simplify creative processes, and the growing audience expectation for increasingly simplified products have significantly curtailed the opportunities to deviate from dominant standards compared to the past. Producers report being required to deliver work within ever-tightening deadlines, sometimes within mere hours, with numerous edits demanded – something that would be unfeasible on a traditional tactile mixing console.

> Majors want their hits churned out like clockwork [...]. Deadlines are crazy [...], sometimes they want delivery in 48 hours, and you can't make "Dark Side of the Moon" in 48 hours. (Mainstream producer, personal interview)

Consequently, the contemporary creative process often begins with the selection of samples, mostly relying on the reuse of existing formulas and recordings, which are then manipulated to achieve something original.

The transformation of song creation has fundamentally altered the traditional dynamics of the music industry. According to our study participants, the massive use of Digital Audio Workstations (DAWs) and virtual instruments – which is not a new phenomenon, nor is it inherently homogenising – has contributed to streamlining the production process and led to a more amateurish approach to music-making. As these interviewees stated:

https://doi.org/10.1017/S0261143025000273 Published online by Cambridge University Press

> Our job has become one of writing. Forget about sheet music and all that. It's a kind of writing similar to programming. (Mainstream producer, personal interview)

> My theoretical knowledge is zero, yet I'm a professional songwriter on paper. I have an ability many music professors might lack: I can capture what's in the air and translate it into music. A songwriter must no longer read sheet music; they must read reality. (Mainstream songwriter under contract with major publishing house, personal interview)

The interviewee's metaphorical juxtaposition of reading sheet music versus 'reading reality' reflects producers' perception that the ability to identify and replicate trending sonic patterns has superseded traditional musical competencies in commercial production contexts. Whilst technical musical knowledge has historically played a variable role in popular music creation, our interviews suggest that platform-driven production practices have further diminished its perceived importance. Indeed, success is increasingly predicated upon the rapid identification and reproduction of algorithmically favoured patterns rather than conventional musical expertise. The metaphor of 'reading reality' thus encapsulates a broader transformation in how mainstream producers conceptualise musical competence in relation to platform imperatives – one where market responsiveness and technological fluency take precedence over traditional forms of musical knowledge. An optimised song is thus born under these premises.

5.2. *Industry stage*

In the stage of industrial mediation, a song transitions from its creative origins to a marketable product, shaped by the industry's material, technical, and economic constraints. The product is adjusted not just for artistic integrity but for its potential performance on digital platforms, where curators and algorithms will assess its relevance and reach. Thus, industrial mediation is a critical juncture between the song and technical and commercial imperatives. After mastering engineers finalise the track's sonic treatment, the production team usually sends it to A&R representatives and/or artist managers. These key figures then coordinate with PR firms, distribution companies, and digital platforms to prepare the song's release. PR teams and distributors undertake infrastructural work that stabilises the conditions necessary for the song's successful launch, aligning the song's digital identity with platform-specific considerations. Non-human actors, such as recommendation systems and data-driven marketing tools, play an essential role in this process, serving as the basis for strategic choices that embed the song within a techno-cultural matrix that governs its circulation.

> The relationship between data and editorial is complex. Sometimes a track has perfect stats like good completion rates, strong saves, but doesn't fit the editorial narrative of certain playlists. Other times you have a track that is underperforming in the metrics but you know it works for specific contexts. That's why we spend so much time with the data team analysing listener patterns across different playlists before finalising our pitch strategy. (Promotion manager, personal interview).

> What's interesting is how the timing of the whole process has changed. The data analytics show us exactly when engagement drops on a track [...], it could be the second verse, the bridge [...] [B]ut you need to understand what these patterns mean for different types of playlists. A skip rate that's problematic for a mainstream pop playlist might be totally normal for an indie playlist. That's where platform experience really matters. (Artist manager, personal interview).

https://doi.org/10.1017/S0261143025000273 Published online by Cambridge University Press

These optimisation processes stem from key dynamics in the contemporary music economy. These include high connectivity, reduced control over informational flows, the gradual shift to a service-oriented industry, and the burgeoning influence of amateur producers (Prior 2010; Wikström 2020). These trends have redefined industry strategies, allowing for the streamlining of the communicative cycle that mediates the relationship between audiences and the industry.

Interviews with industry operators reveal that gatekeeping strategies have been reconfigured to maintain market control following the devaluation of products due to digitisation. This shift has necessitated new ways of perceiving consumers and production channels.

In the pre-internet music economy, promotional channels and physical media (e.g., records and tapes) were distinct, that is, the distribution of a phonographic product via radio or television would stimulate demand for the same product in the distribution market. Today, streaming services serve consumer demand and provide feedback about their behaviour without selling music products and without immediate financial returns for those involved in the production process (Fleischer 2017). Thus, promotional and distribution channels are no longer separate. This transition is critical for the optimisation logic that a song encounters throughout its lifecycle.

> Playlists have replaced radio, [...] with one crucial difference: in the past, three weeks of airplay on Radio Deejay [major Italian commercial radio] would generate significant revenue. Now, three weeks on New Music Friday or Indie Italia [major Spotify editorial playlists] barely generates any income. (Artist manager, personal interview)

> Playlists are like greenhouses where the same type of plant always grows. And if something evolves, it evolves very slowly and it does so en masse. It's highly unlikely to find something significantly different within a playlist. You know that playlist X has this particular sound or that particular one. (Songwriter, personal interview)

Participants highlight the pivotal role of Spotify's editorial playlists in the process of transferring phonographic materials to consumers of recorded music. For artists seeking entry into the mainstream market without an established following, it is essential that their tracks are channelled within platforms' playlists and categorisations.

The social life of an optimised song at this stage may vary by several factors, such as the music genre. Informants report that the two main repertoires for them in Italy – 'pop' (traditional Italian song) and 'urban' (rap, trap, and contemporary R&B) – are managed differently; therefore, different human and non-human actors are involved. Pop artists usually necessitate greater investment. Indeed, they are more challenging to promote outside traditional media circuits like television as their musical content tends to generate less virality on social media. Conversely, for urban artists, often emerging as grassroots phenomena within specific networks or communities on social media, the development strategy would be more digitally oriented.

> Strategies really vary genre by genre. The two main genres we handle in Italy are urban and pop. With urban you go straight to digital because that's where they grow organically, that's literally where we scout the artists from [...] you can tell right away if they are going to perform on socials and platforms. Pop is different – there's huge demand but they rarely break through digitally, they need that initial push through more traditional media channels. (A&R, major, personal interview)

At this juncture in its lifecycle, the song is progressively treated less as an artistic product and more as content for platforms. As the interviews reveal, and as Meier (2018) has partially

https://doi.org/10.1017/S0261143025000273 Published online by Cambridge University Press

shown, the purely musical elements of a song serve primarily as a means of creating relationships with the audience, that is, 'extra-cultural' purposes. In other words, without musical recordings, there would be no artist to 'sell', yet at the same time, recorded music is just one of the products (often one of the least profitable) that can be associated with the artist's brand. This devaluation of the artistic element has only reinforced the reliance on advertising markets and the consolidation of promotional culture paradigms typical of post-Fordist neoliberal capitalism.

Having passed through this phase, the song is now ready for distribution. Promotional clips may have been created, playlist pitches made to platforms, and sponsored campaigns initiated to fuel pre-saves; the time is now ripe for the song to transition into algorithmic platforms.

5.3. Platform stage

Platform mediation represents the third stage. The interaction between human and non-human actors becomes even more pronounced at this juncture. The song is subjected to the algorithms of streaming platforms, their recommendation systems, and social media, which largely dictate the terms of engagement and make automated decisions about what music to promote, who should hear it, and in what context.

> Six weeks out from release, everything has to work together. We're running pre-save campaigns, planning the influencer strategy, coordinating playlist pitches. You can't just focus on one thing anymore [...]. If your track is getting engagement from influencers but no playlist adds, or vice versa, it affects how the platforms push it out. The first 48 hours after release are crucial for the algorithms, so everything needs to hit at the right time. (Artist manager, personal interview)

An optimised song stands poised on the threshold of its public unveiling, with 6 weeks remaining until its official release. At this liminal stage, digital marketing teams craft promotional campaigns across multiple channels, with sponsored ads designed to capture attention across various platforms. Below-the-line strategies are being employed to engage influencers and other key figures, while PR agencies are working to secure features in media outlets. Label promotion teams and streaming specialists pursue playlist inclusion by submitting tracks via official tools like Spotify's playlist submission system. While direct lobbying of editorial teams is officially discouraged, informal industry lobbying may sometimes influence playlist placements – positions that can dramatically affect a track's visibility and performance metrics. If it is a song by a less established artist, further efforts are needed. Even though the song has yet to be officially released, it has already begun its journey through the algorithmic circuits of digital platforms.

> The first two weeks are crucial for the algorithms. If you don't hit certain metrics like completion rates, save ratios, skip rates [...], the algorithms won't push your track further. [...] Obviously, being on an editorial playlist is essential [...] [w]e used to look at radio plays or chart positions, now we're checking real-time data across different platforms to see if we need to adjust the campaign. One bad performance metric can affect how the track gets served across the whole ecosystem. (Promotion manager, personal interview)

Streaming services provide the infrastructure through which the song is distributed and consumed, actively shaping the song's trajectory by setting the parameters for how content

https://doi.org/10.1017/S0261143025000273 Published online by Cambridge University Press

is uploaded, monetised, and promoted. The process of datafication further highlights the role of non-human actors and Spotify's influence. As the song generates streams, likes, and shares, these data points feed back into the platform's algorithms and influence the song's ongoing promotion and visibility. A key non-human actor in this ecosystem is The Echo Nest, a music intelligence platform acquired by Spotify that analyses listener behaviour and music characteristics, influencing how songs are categorised and recommended and thus shaping the song's journey within the digital environment (Eriksson 2016).

As Seaver (2022) notes, the optimisation of a song on digital platforms emerges from intricate interactions between several human actors, such as programmers, IT specialists, and curatorial editors, who embody human agency within a landscape often perceived as dominated by impersonal algorithms and reflect the economic and cultural imperatives of the industry, influencing how songs are categorised and listened to. Curatorial editors, on the other hand, represent human taste-making within this algorithmically driven environment, crafting playlists that balance personal expertise with the data-driven preferences suggested by the platform (Bonini and Gandini 2019). In doing so, they maintain a degree of influence over the musical landscape, reasserting their power through the curation of content that aligns with both market demands and cultural values.

> A&Rs don't communicate directly with curators; other figures manage those relationships. We might know them, they might attend our launch events, but direct pressure would be counterproductive, especially since the editorial team is separate from the platform staff who manage label relations. Of course, they might attend my artists' events together and we exchange positive signals [...]. (Senior A&R Manager, major label, personal interview)

> Before working as an A&R, I was in label relations for [streaming platform] and we would have weekly calls with all the major labels and large independents for them to pitch their projects. With [streaming platform] it was very much face-to-face, while with [other platform] it worked more through email. [...] Yes, there is a direct relationship. (Junior A&R Manager, mainstream independent label, personal interview)

Human interaction remains vital. As gleaned from our interviewees, the journey of the optimised song is heavily influenced by informal interactions between industry and platform operators. These interactions – whether through casual conversations, industry events, or online communication – allow industry operators to stay attuned to the latest trends and shifts in audience preferences, and to ensure the visibility of certain songs Through these networks, curatorial editors can exert their influence, subtly guiding the direction in which the platform's content evolves. Thus, the optimised song does not merely pass through the rigid structures of digital platforms but is also shaped by the fluid, dynamic, and often informal interactions between the various human actors involved.

> Big breakout acts often come through multiple channels simultaneously. [...] Data team flag unusual engagement patterns, [...] then you get alerts from the European analytics department showing cross-platform momentum. Then the regional teams start noticing it too. [...] [D]iscoveries happen when you see the same signals coming from different sources, like data teams or social metrics, all converging to highlight something significant. (A&R, major label, personal interview)

As highlighted by our interviewees, the role of data teams within record labels has also become crucial in the lifecycle of the optimised song, as they analyse listener data, gleaned from streaming platforms, to identify trends, audience preferences, and emerging markets.

https://doi.org/10.1017/S0261143025000273 Published online by Cambridge University Press

These activities will help shape the strategies that guide which songs are promoted, marketed, produced, and even how they are optimised.

Hence, there is a phase in the lifecycle of an optimised song existing in a liminal state of preparation and further optimisation to align with the algorithmic categorisations that will later affect its exposure to listeners. This intermediary phase encompasses a significant array of non-human actors working in conjunction with human agents, within a network where the agency is distributed across several intertwined, interdependent entities. The song is meticulously prepared, not only for consumer listening but also for engagement within a digitally mediated ecosystem, where its circulation is deemed linked to its ability to adapt to the algorithmically governed terrains of music platforms and social media. Now, the optimised song is finally ready for its launch.

5.4. Reception stage

Audience reception marks the fourth phase in the social life of an optimised song, completing the lifecycle but also feeding back into it. This stage is characterised by the processes of datafication and recursivity and marks a significant turning point in the song's biography, as it transitions from a strategically positioned piece of content into a lived experience for listeners, assuming new interpretative meanings. As listeners engage with the song, their actions – whether pressing play, skipping, saving, or sharing – feed back into the platform's data-driven systems, creating a recursive relationship that alters the song's trajectory. The song is transformed into a data point, and its success is increasingly measured by its ability to capture and sustain the attention of a fragmented and algorithmically curated audience.

> Even with my background in music analysis, I find myself engaging with tracks differently when they come through playlists [...], you become more focused on immediate impact, on whether a song works in that specific context rather than its broader artistic significance. The platforms are not just distributing music differently; they're fundamentally changing how we experience it. (Musicology PhD student, personal interview)

> I find myself avoiding editorial playlists these days. They're too predictable, too sanitised. Each playlist has its formula [...], specific tempo ranges, particular sound palettes, exact song structures. When every track is engineered to maintain the same energy level and mood [...], you lose those interesting moments of surprise that make music discovery exciting. (Media Studies postgraduate student, personal interview)

Platform playlists are essential in the reception phase of an optimised song. Algorithmic playlists, such as Spotify's *Release Radar* and *Discover Weekly*, use data-driven insights based on user metrics like past listening habits, engagement history, pre-saves, and others. On the other hand, curated playlists like Spotify's *New Music Friday* or Apple Music's *New Music Daily* are managed by human editors who act as gatekeepers, shaping listener attention based on editorial judgement and industry trends and pressures. Securing a spot on a curated playlist can significantly enhance a song's visibility and credibility, influencing its organic growth (Bonini and Gandini 2019). Platforms like TikTok have also become essential as songs can gain popularity through user engagement and the remix of tracks for viral challenges, thus adding a participatory aspect (Radovanović 2022).

Other elements, such as push notifications and personalised alerts on smartphones, and in-app recommendations direct users towards specific songs and playlists (Magaudda 2021). The smartphone is not just a listening tool but a key actor in the song's social life, influencing when and how songs are encountered and facilitating engagement with social media.

https://doi.org/10.1017/S0261143025000273 Published online by Cambridge University Press

> The whole 'discovery' thing is quite ironic. Your phone keeps pushing you these recommendations, notifications, playlist updates [...], all supposedly personalised. But the more personalised it gets, the more predictable the suggestions become. It's like the algorithm finds your comfort zone and then makes sure you never leave it. That's not discovery, that's containment. (Music Business postgraduate student, personal interview)

Musical material is organised on the data generated by listener behaviours rather than considerations of its strictly artistic qualities (Negus 2018), prioritising the facilitation of user discovery of new products and allegedly 'personalised' listening. Platforms often treat music as a common good, available at a fixed price, promoting a mode of reception that frames music as a backdrop to everyday experiences (Prey 2019). Music, understood as a 'technology of the self' (DeNora 1999), establishes a relationship with listeners through a complex interaction of factors, including the instruments and recording devices, musical styles, the connected social functions, performers' emotional states, and bodily actions (Clarke 2005). With digitalisation, music reception has become reliant on a centralised network system, within which a form of 'productive' reception is exercised (Bolin 2016), all while maintaining a degree of reflexivity in everyday listening practices (Novak 2016). Consumers' choices depend on a multitude of factors – such as the intent of use, mode of discovery, connectivity, and functional utility (Krause and Caldwell Brown 2019). Materiality remains crucial (Magaudda 2011), as interfaces and devices allow listeners to manage their listening experience by controlling key attributes of musical tracks with minimal effort (Kamalzadeh *et al.* 2012). This trend carries the risk of cognitive overload (Fleischer 2015), given the vastness of available music and its ubiquity in everyday contexts (Kassabian 2013), which is radically transforming our processes of attributing value to music (Marshall 2019). As this participant put it:

> The more control these platforms give us over music, the less we actually engage with it. When I'm at home, I'm constantly skipping tracks, checking stats, following recommendations [...], but when I'm driving and can't touch my phone, I find myself actually listening to full albums, discovering details I'd missed before. It's ironic, all this supposed convenience is actually making us worse listeners. (Music Studies postgraduate student, personal interview)

The interviews have revealed a trend towards more distracted, inattentive, and situational engagement with optimised songs (Raffa 2024b). These tracks are perceived as mass-produced for seamless reception on social media and streaming platforms, thereby degrading the quality of their listening experiences and favouring an engagement with music less active in seeking out new content and less concerned with high audio fidelity. Those with a deeper understanding of formal music structures argued that the platform's features would be tailored to satisfy users with lower cultural expectations, nudging even discerning listeners towards mainstream, highly optimised music and diluting their more selective listening habits.

> What's fascinating is how platforms have changed what we consider valuable in music. It used to be about artistic elements like harmony, arrangement, composition [...]. [N]ow it's all about 'platform-friendly' qualities: how quickly it hooks you, how well it fits certain playlists, how it performs in the metrics [...] [T]he whole infrastructure of streaming has shifted not just how we listen, but what we listen for. (Musicology student, personal interview)

https://doi.org/10.1017/S0261143025000273 Published online by Cambridge University Press

Among the interviewed heavy listeners, many view the interwoven network of platforms and social media as problematic, expressing concerns about meagre financial returns for artists and the increasing dominance of quantitative metrics in determining musical value. Whilst ambient or background listening has long been common practice, particularly in relation to radio, these respondents specifically critiqued how songs crafted primarily for circulation on digital platforms appear intentionally designed to discourage deeper engagement, arguing that platform mechanics and algorithmic curation may constrain opportunities for more focused listening experiences when desired. This perception suggests a tension between different modes of listening that coexist in the streaming ecosystem.

Yet, the journey of the optimised song continues; the recursive nature of the digital platforms ensures that this cycle perpetuates itself, with every interaction feeding back into the system and compelling both human and non-human actors to continually innovate new forms of optimisation.

In this scenario, it emerges that music reception is thus deeply intertwined with the non-human processes that analyse and respond to it. Listeners are not passive recipients but active participants in a recursive loop that continuously reshapes the music's presence and significance in the digital sphere (Siles *et al.* 2020, 2024). This dynamic reveals the profound ways in which human behaviours and algorithmic responses co-evolve, challenging traditional notions of authorship, agency, and value in music.

6. The networked cycle of digital music-making

In this paper, we conceptualised the optimised song as an object with its own 'social life'. By examining the journey of this object through its networked lifecycle, we have shown how platform ecosystems establish distinct modes of musical production, circulation, and reception. Our analysis reveals the complex socio-technical arrangements through which songs now move, the various human and non-human actors who collaborate in transforming musical works into datafied products and the stark power imbalances within this process.

In the first phase, artists lament the erosion of artistic autonomy, a phenomenon that speaks to broader concerns about labour in the digital economy (O'Dair and Fry 2020; Polak and Schaap 2024). DAWs, software plug-ins, and virtual instruments are used to streamline the production process, while curatorial playlists on Spotify function as benchmarks for the structural and sonic qualities of a song. In this context, music-making technologies act as enforcers of platform-friendly norms, shape creative possibilities, and favour the reiteration of formulaic structures that align with expected, imagined algorithmic preferences. The use of these artefacts is informed by the algorithmic imaginaries of the creators who are increasingly willing to optimise their music for algorithmic detection and reception.

Algorithmic imaginaries are also a key element as the song progresses to industrial mediation. Indeed, industry professionals increasingly defer to data analytics, subordinating human judgement to machine-generated insights and actively working to make the optimised song a successful datafied product. In this sense, algorithmic imaginaries embody and contribute to the reproduction of instances of 'disciplinary power' (Foucault 1977). As noted by Bucher (2018, p. 88), this notion was developed by Foucault 'to account for the duality of power and subjectivation – effectuated by "training" subjects to think and behave in certain ways and, thus, to become the principle of their own regulation of conduct'. In this way, 'subjects are governed so as to reach their full potentiality as useful individuals'. As Bucher (2018) continues, using the example of the Facebook newsfeed (p. 92), the datafication and metrification processes of digital platforms can be considered 'as a form of government in which the right disposition of things are arranged to lead to a suitable end'. Indeed, digital platforms produce a 'participatory subject', that is, 'the one who participates, communicates,

https://doi.org/10.1017/S0261143025000273 Published online by Cambridge University Press

and interacts' (p. 88) according to particular 'forms of participation' that 'are more desirable than others' (p. 90) and also suggested by the software. Within this framework, it can be argued that artists, producers, and industry operators have been trained to reproduce the logic and values of streaming services. Specifically, their algorithmic imaginaries and 'the constant possibility of disappearing and becoming obsolete' enable forms of 'participatory subjectivity' (p. 92) by which they adapt to those 'forms of participation' suggested by streaming services. Moreover, this disciplinary power is intertwined with the productive dimension of algorithmic imaginaries and what Bucher (2018) considers the 'micro-politics' of power, in other words, 'the barely perceived transitions in power that occur in and through situated encounters' (Bissell 2016, p. 397).

The platform mediation stage marks the definitive shift towards algorithmic governance and 'metric power' (Beer 2016). During this phase, songs are converted into quantifiable data points, potentially enabling greater control over cultural content. This datafication process transforms musical expressions into metrics that platforms can process algorithmically. Digital tools like The Echo Nest and various platform features – human creations from specific companies (Seaver 2022) – facilitate user experiences while possibly altering traditional cultural gatekeeping mechanisms. This transformation may support streaming services' market positioning. Vonderau (2019) suggests that Spotify functions as an intermediary between markets, advertisers, and investors, which could influence music distribution patterns. Therefore, music streaming services appear to operate through a dual approach: providing songs as services while utilising listener data for advertising purposes. In particular, Spotify's economic model relies on financial market investments, which might necessitate certain content management strategies. The platform's playlists – combining editorial decisions with algorithmic logic – could represent a mechanism through which content is shaped according to commercial considerations, potentially influencing a broader spectrum of economic actors (Prey 2020; Prey *et al.* 2020).

In the audience reception phase, listeners find their preferences increasingly moulded by recommendation algorithms, encountered both on streaming services and social media. In this scenario, the act of listening becomes a form of data production, feeding a system aimed at user retention (McGuigan and Manzerolle 2014). Then, the data extracted from user behaviour are absorbed by the platform and used to train the recommendation systems and behavioural patterns underlying its operation. From this picture emerges the recursive process that characterises contemporary cultural production (Airoldi 2021). Artists work so that their tracks pander to the platform's algorithmic logic, as do industry players. The optimised song is then transformed into a datafied product by the streaming service and consumed by users, whose behaviour is in turn datafied. The data collected on user behaviour will influence the functioning of the platform, the algorithmic imaginaries that will develop in this regard, and thus music production, in a recursive cycle that is self-perpetuating and reinforces the power of digital platforms and their owners. As Striphas (2015, p. 406) noted a decade ago with reference to Bruno Latour, 'algorithms have significantly taken on what (...) has been one of culture's chief responsibilities, namely, the task of "reassembling the social" [...]'.

Throughout the lifecycle of a song, optimisation emerges not as a neutral technical process but as a pervasive ideological force reshaping the fabric of musical culture. Creative expressions that do not conform to algorithmic efficiency may be marginalised, entire genres and artistic identities reconfigured, pressuring artists to maintain constant releases to remain visible on digital platforms. Furthermore, this acceleration of cultural production represents a further form of precarity for cultural workers, who must constantly adapt to shifting algorithmic demands to maintain their livelihoods.

While forms of agency and resistance against these systems are possible and even ongoing (Marshall 2015; Siles *et al.* 2020), the asymmetry of power between individual users

https://doi.org/10.1017/S0261143025000273 Published online by Cambridge University Press

and digital platforms makes meaningful resistance increasingly challenging. The dominance of platform capitalism is maintained not just through technological control but through the internalisation of its logic by cultural producers and consumers alike (Markham 2021). The drive for optimisation is fundamentally reshaping the production and organisation of culture, challenging traditional understandings of taste formation, cultural identity, and the role of music in social bonding.

Furthermore, all these processes are allowed by infrastructural entities such as cloud servers, data centres, and network providers that, behind the scenes, ensure seamless music delivery, enabling the streaming and sharing capabilities essential for song reception and viral spread on sites like TikTok. In this sense, like other tech companies, Spotify relies on the continuous extraction of natural resources, labour, and human behaviour as data (Crawford 2021).

As we conclude our analysis of platform-mediated music production, we want to capture how songs optimised for digital circulation move through their networked lifecycle: born amid algorithmic expectations, shaped through data-driven decisions, and circulated via platform mediation systems. This journey through creation, industry mediation, platform distribution, and audience reception reveals not only the transformative power of digital platforms in contemporary music production, but also the profound reconfiguration of relationships between creators, industry operators, technological systems, and listeners. These findings invite us to critically examine how platform-driven cultural production may continue to evolve and reshape the future landscape of musical creation and reception.

Author contribution. M.R. and R.P. fully shared the conception and development of this article. For purely academic reasons, it is noted that M.R. wrote Sections 4 and 5, and R.P. wrote Sections 2 and 3. The introduction and the discussion were written jointly.

References

Airoldi, M. 2021. *Machine Habitus: Toward a Sociology of Algorithms* (Cambridge, Polity Press)
Appadurai, A. (ed.) 1986. *The Social Life of Things. Commodities in Cultural Perspective* (Cambridge, Cambridge University Press)
Bates, E. 2012. 'The social life of musical instruments', *Ethnomusicology*, 56/3, pp. 363–95
Becker, H.S. 1974. 'Art as collective action', *American Sociological Review*, 39/6, pp. 767–76
Becker, H.S. 1982. *Art Worlds* (Berkeley, University of California Press)
Beer, D. 2016. *Metric Power* (London, Palgrave Macmillan)
Bennett, A., and Rogers, I. 2016. *Popular Music Scenes and Cultural Memory* (London, Palgrave Macmillan)
Bissell, D. 2016. 'Micropolitics of mobility: public transport commuting and everyday encounters with forces of enablement and constraint', *Annals of the American Association of Geographers*, 106/2, pp. 394–403
Bolin, G. 2016. *Value and the Media: Cultural Production and Consumption in Cultural Markets* (New York, Routledge)
Bonini, T., and Gandini, A. 2019. '"First week is editorial, second week is algorithmic": platform gatekeepers and the platformization of music curation', *Social Media + Society*, 5/4, pp. 1–11
Bonini, T., and Magaudda, P. 2023. *Platformed! How Streaming, Algorithms and Artificial Intelligence Are Shaping Music Cultures* (Cham, Palgrave Macmillan)
Born, G., and Barry, A. 2018. 'Music, mediation theories and actor-network theory', *Contemporary Music Review*, 37/5–6, pp. 443–87
Brewer, J.D., and Miller, R.L. 2003. *The AZ of Social Research: A Dictionary of Key Social Science Research Concepts* (London, Sage)
Bucher, T. 2018. *If...Then: Algorithmic Power and Politics* (New York, Oxford University Press)
Cerulo, K.A. 2009. 'Nonhumans in social interaction', *Annual Review of Sociology*, 35, pp. 531–52
Clarke, E. 2005. *Ways of Listening: An Ecological Approach to the Perception of Musical Meaning* (Oxford, Oxford University Press)
Crawford, K. 2021. *The Atlas of AI: Power, Politics, and the Planetary Costs of Artificial Intelligence* (New Haven, CT, Yale University Press)
Creswell, J.W., and Poth, C.N. 2018. *Qualitative Inquiry and Research Design: Choosing among Five Approaches*, 4th ed. (Thousand Oaks, Sage)

https://doi.org/10.1017/S0261143025000273 Published online by Cambridge University Press

Dalla Riva, C. 2023. 'One song, many writers. How modern songwriting evolved into a game of aggressive credit – even for the people who didn't technically do the composing', *Tedium*, 4 February. https://tedium.co/2023/02/04/why-do-modern-pop-songs-have-so-many-credited-writers/ (accessed 30 January 2025)
DeNora, T. 1999, 'Music as a technology of the self', *Poetics*, 27, pp. 31–56
Eriksson, M. 2016. 'Close reading big data: the Echo Nest and the production of (rotten) music metadata', *First Monday*, 21/7. https://doi.org/10.5210/fm.v21i7.6303
FIMI. 2024. *Global Music Report 2024.* https://www.fimi.it/mercato-musicale/pubblicazioni/global-music-report-2024.kl (accessed 29 January 2025)
Fleischer, R. 2015. 'Towards a postdigital sensibility: how to get moved by too much music', *Culture Unbound: Journal of Current Cultural Research*, 7/2, pp. 255–69
Fleischer, R. 2017. 'If the song has no price, is it still a commodity? Rethinking the commodification of digital music', *Culture Unbound: Journal of Current Cultural Research*, 9/2, pp. 146–62
Foucault, M. 1977. *Discipline and Punish: The Birth of the Prison* (New York: Vintage)
Franco, P., Canniford, R., and Phipps, M. 2022. 'Object-oriented marketing theory', *Marketing Theory*, 22/3, pp. 401–20
Giardullo, P. 2016. 'Does "bigger" mean "better?" Pitfalls and shortcuts associated with big data for social research', *Quality & Quantity*, 50, pp. 529–47
Gillespie, T. 2016. 'Algorithm', in *Digital Keywords: A Vocabulary of Information Society and Culture*, ed. B. Peters (Princeton, NJ, Princeton University Press), pp. 18–30
Hennion, A., and Levaux, C. (eds). 2021. *Rethinking Music through Science and Technology Studies* (London, Routledge)
Hesmondhalgh, D., and Meier, L. 2017. 'What the digitalisation of music tells us about capitalism, culture and the power of the information technology sector', *Information, Communication & Society*, 21, pp. 1–16
Hirsch, P. 1972. 'Processing fads and fashions: an organization-set analysis of cultural industry systems', *American Journal of Sociology*, 77/4, pp. 639–59
Hodgson, T. 2021. 'Spotify and the democratisation of music', *Popular Music*, 40/1, pp. 1–17
Jones, E. 2021. *DIY Music and the Politics of Social Media* (New York, Bloomsbury Academic)
Kamalzadeh, M., Baur, D., and Möller, T. 2012. 'Listen or interact? A large-scale survey on music listening and management behaviours', *Journal of New Music Research*, 45/1, pp. 1–26
Kassabian A. 2013. *Ubiquitous Listening: Affect, Attention, and Distributed Subjectivity* (Berkeley, University of California Press)
Katz, M. 2004. *Capturing Sound: How Technology Has Changed Music* (Los Angeles, University of California Press)
Katz, M. 2006. 'Portamento and the phonograph effect', *Journal of Musicological Research*, 25, pp. 3–4
Kiberg, H. 2023. '(Plat)formatted creativity: creating music in the age of streaming', *Cultural Sociology*. https://doi.org/10.1177/17499755231202055
Krause, A., and Caldwell Brown, S. 2019. 'A "uses and gratifications" approach to considering the music formats that people use most often', *Psychology of Music*, 49/3, pp. 547–66
Latour, B. 2005. *Reassembling the Social: An Introduction to Actor-Network Theory* (New York, Oxford University Press)
Magaudda, P. 2011. 'When materiality "bites back": digital music consumption practices in the age of dematerialization', *Journal of Consumer Culture*, 11/1, pp. 15–36
Magaudda, P. 2021. 'Smartphones, streaming platforms, and the infrastructuring of digital music practices', in *Rethinking Music through Science and Technology Studies*, ed. A. Hennion, and C. Levaux (London, Routledge), pp. 241–55
Magaudda, P., Balbi, G., and Delfanti, A. 2016. 'Digital circulation: media, materiality, infrastructures. An introduction', *Tecnoscienza – Italian Journal of Science & Technology Studies*, 7/1, pp. 7–15
Markham, A. 2021. 'The limits of the imaginary: challenges to intervening in future speculations of memory, data, and algorithms', *New Media & Society*, 23/2, pp. 382–405
Marshall, L. 2015. '"Let's keep music special. F – Spotify": On-demand streaming and the controversy over artist royalties', *Creative Industries Journal*, 8/2, pp. 177–89
Marshall, L. 2019. 'Do people value popular music?', *Cultural Sociology*, 13/2, pp. 141–58
Mauch, M., MacCallum, R., Lévy, M., and Leroi, A. 2015. 'The evolution of popular music: USA 1960–2010', *Royal Society Open Science*, 2/5, p. 150081
McGuigan, L., and Manzerolle, V. 2014. *The Audience Commodity in the Digital Age* (New York, Peter Lang)
Meier, L.M. 2018. *Popular Music and Promotion: Music and Branding in the Digital Age* (Cambridge, Polity Press)
Mooney, J., and Pinch, T. 2021. 'Sonic imaginaries: how Hugh Davies and David van Koevering performed electronic music's future', in *Rethinking Music through Science and Technology Studies*, ed. A. Hennion, and C. Levaux (London, Routledge), pp. 113–49
Morris, J.W. 2020. 'Music platforms and the optimization of culture', *Social Media + Society*, 6/3, p. 2056305120940690
Morris, J.W., Prey, R., and Nieborg, D.B. 2021. 'Engineering culture: logics of optimization in music, games, and apps', *Review of Communication*, 21/2, pp. 161–75

Nagy, P., and Neff, G. 2015. 'Imagined affordance: reconstructing keyword for communication theory', *Social Media + Society*, 1/2
Negus, K. 2018. 'From creator to data: the post-record music industry and the digital conglomerates', *Media, Culture & Society*, 41/3, pp. 367–84
Negus, K., and Pickering, M. 2004. *Creativity, Communication and Cultural Value* (London, Sage)
Novak, R. 2016. *Consuming Music in the Digital Age: Technologies, Roles and Everyday Life* (London, Palgrave Macmillan)
O'Dair, M., and Fry, A. 2020. 'Beyond the black box in music streaming: the impact of recommendation systems upon artists', *Popular Communication*, 18/1, pp. 65–77
Poell, T., Nieborg, D., and Duffy, B.E. 2021. *Platforms and Cultural Production* (Cambridge, Polity Press)
Polak, N., and Schaap, J. 2024. 'Write, record, optimize? How musicians reflect on music optimization strategies in the creative production process', *New Media & Society*. https://doi.org/10.1177/14614448241243095. See: https://journals.sagepub.com/doi/full/10.1177/14614448241243095
Prey, R. 2019. 'Background by design: listening in the age of streaming', *Naxos Musicology International*, 1/1, pp. 1–10
Prey, R. 2020. 'Locating power in platformization: music streaming playlists and curatorial power', *Social Media + Society*, 6/2. https://doi.org/10.1177/2056305120933291
Prey, R., Esteve Del Valle, M., and Zwerwer, L. 2020. 'Platform pop: disentangling Spotify's intermediary role in the music industry', *Information, Communication & Society*, 25/1, pp. 1–19
Prior, N. 2010. 'The rise of the new amateurs: popular music, digital technology and the fate of cultural production', in *Handbook of Cultural Sociology*, ed. J.R. Hall, L. Grindstaff, and M. Lo (London, Routledge), pp. 398–407
Radovanović, B.S. 2022. 'TikTok and sound: changing the ways of creating, promoting, distributing and listening to music', *INSAM Journal of Contemporary Music, Art and Technology*, 9, pp. 51–73
Raffa, M. 2024a. *Poptimism: Media algoritmici e crisi della popular music* (Milan), Meltemi
Raffa, M. 2024b. '*Make-do-with listening*: competence, distinction, and resignation on music streaming platforms', *Social Media + Society*, 10/1. https://doi.org/10.1177/20563051231224272
Raffa, M., and Pronzato, R. 2021. 'The algorithmic imaginary of cultural producers: towards platform-optimized music?', *H-Ermes: Journal of Communication*, 19, pp. 293–321
Rolison, J., and Edworthy, J. 2013. 'The whole song is greater than the sum of its parts: local and structural features in music listening', *Psychomusicology: Music Mind and Brain*, 23(1), pp. 33–48
Seabrook, J. 2015. *The Song Machine: Inside the Hit Factory* (New York, W. W. Norton & Company)
Seaver, N. 2019. 'Captivating algorithms: recommender systems as traps', *Journal of Material Culture*, 24/4, pp. 421–36
Seaver, N. 2022. *Computing Taste: Algorithms and the Makers of Music Recommendation* (Chicago, University of Chicago Press)
Siles, I., Segura-Castillo, A., Solís, R., and Sancho, M. 2020. 'Folk theories of algorithmic recommendations on Spotify: enacting data assemblages in the global South', *Big Data & Society*, 7/1, p. 2053951720923377
Siles, I., Valerio-Alfaro, L., and Arriagada, A. 2024. '"Music is just right there on social media!": discovering, exploring, and incorporating songs across platforms', *International Journal of Communication*, 18, pp. 3480–550
Stokes, P.D. 2007. 'Using constraints to generate and sustain novelty', *Psychology of Aesthetics, Creativity, and the Arts*, 1/2, pp. 107–13
Striphas, T. 2015. 'Algorithmic culture', *European Journal of Cultural Studies*, 18/4–5, pp. 395–412
Van Dijck, J., Poell, T., and De Waal, M. 2018. *The Platform Society: Public Values in a Connective World* (New York, Oxford University Press)
Vonderau, P. 2019. 'The Spotify effect: digital distribution and financial growth', *Television & New Media*, 20/1, pp. 3–19
Wikström, P. 2020. *The Music Industry: Music in the Cloud* (Cambridge, Polity Press)

Cite this article: Raffa, M., and Pronzato, R. 2025. 'The Social Life of an Optimised Song: Reconstructing the Networked Cycle of Digital Music-Making'. *Popular Music* 1–19. https://doi.org/10.1017/S0261143025000273