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Making Sense of Metrics in the Music Industries

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This article considers how media workers and organizations make use of the abundance of metrics available in the contemporary online environment. The expansion of audience measurement on digital music platforms, dashboard analytics, and third-party providers raises broad societal concerns about the quantification of culture; however, less attention has been paid to how professionals in the music industries approach, understand, and deploy these metrics in their work. Drawing on survey and interview data, we found that

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music workers do not take metrics on faith or reject them out of hand; rather, they make sense of them, deploy them strategically, and narrate their meanings to give themselves rationales to make investments and predictions and to persuade others to do so.

Keywords: audience research, media industries, metrics, music industries, sensemaking, streaming, platforms

Media businesses have for many decades gathered and analyzed data about the activities and preferences of their audiences. Statistics such as sales and audience size "are an economic by-product of the mass manufacture and technological mediation of art" (Osborne, 2020, p. 1). With the rise of survey-based market research in the 20th century (Igo, 2008), these businesses expanded the kinds of information they could collect on their own. Specialist businesses, such as Nielsen in the United States or the British Market Research Bureau in the UK, emerged to collect, analyze, and share audience data across an entire industry. New technologies of measurement, such as Nielsen's People Meter or the Soundscan system for tracking music purchases (McCourt & Rothenbuhler, 1997), measured audience size and sales with greater, if often disputed, accuracy and detail (Hessler, 2019).

In recent years, new technologies of data tracking and collection made available by the Internet, social media, streaming platforms, and smartphone apps have fundamentally altered how media industries gather data (Napoli, 2012). Data are more plentiful, detailed, and networked, and measure many more aspects of audiences than before. Businesses based on tracking, analyzing, and selling information about media audiences have grown bigger and more diverse (Turow, 2013). These include not only older providers such as Nielsen and a host of new competitors tracking digital distribution, but also the tech platform giants, which play an increasingly powerful role in media and their measurement. In the age of downloads and streaming, platforms that distribute media have an immense amount of granular data on what audiences consume and how. Some of these metrics they deliver back to creators, managers, and users; others they withhold (Gillespie, 2016).

For some, this industry of metrics means the firms that use them judiciously can be more responsive to their audiences. Some accounts are rather credulous and celebratory, such as press coverage of Netflix attributing its great success to its ability to match content to audience needs (Plummer, 2017). From others, there is concern that artists and producers may be increasingly tailoring what they create to what all these data tell them is likely to be popular (Hu, 2018; Morris, 2020). Others see audience metrics in an even more sinister light, part of a broader concern about an increasing societal emphasis on quantification.

Although critics of digital platforms are undoubtedly right to focus attention on their new and distinctive modes of power, we must also take into account the agency, practices, and values of those who deploy metrics. How often a song has been played or how many subscribers a performer has accumulated may appear to be simple facts, requiring neither interpretation nor skepticism. But in practice, those who use these metrics to make decisions and investments must make sense of these numbers for themselves and make them persuasive to others. Surprisingly little research has paid systematic attention to how media industry workers make sense of information about audiences in the new data-abundant environment, and

what this sensemaking means for our understanding of media production and consumption; as we shall see, the main exceptions come from the study of journalism (Christin, 2020; Christin & Petre, 2020; Petre, 2015).

In this article, we discuss how media producers engage with metrics via a case study of music, a particularly interesting example of the "platformization of cultural production" (Duffy, Poell, & Nieborg, 2019, p. 1) given that music has so often been at the forefront of media digitalization and datafication (Morris, 2015). We analyze how musicians and music industry intermediaries use, negotiate, and in some cases, refuse the metrics available to them. We distinguish two main ways in which metrics are used by music industry workers: (1) internally, selectively appropriating them to guide decisions in risky environments; and (2) externally, crafting persuasive stories to achieve goals when communicating across the highly fragmented setting of the music industry.

In historical terms, the reliance of music industry workers on information provided for them by digital platforms represents a new form of dependence. This article unpacks the nature of that dependence. We seek to understand how musicians and music intermediaries enact this aspect of platform power. Our aim is not to celebrate the agency of such workers and thereby dismiss or minimize platform and metric power, but to explore and categorize the many manifestations of this agency and acknowledge its constraints.

How the Media Know Their Audiences

Some scholars have understood the emergence and growth of media audience measurement as a part of the increasing rationalization of culture (Ahlkvist, 2001). Napoli (2010) writes that the new mechanisms for gathering and analyzing information about audiences reflect a "decision-making environment . . . characterized by a persistent *rationalization of audience understanding*," in which media industries' perceptions of their audiences have become "increasingly scientific and data-driven" (p. 11). Similarly, the increasing use of audience research has been seen by some political economy and critical media scholars as a threat to professional and artistic autonomy (Ryan, 1992). Gitlin (1983), for example, examines how a preoccupation with audience size among television industry executives and managers tended to make content less challenging and innovative.

Similar warnings have been made about the effects of digital platforms on media production. Nieborg and Poell (2018) note that digital news sites like Buzzfeed and Upworthy look first to trending topics and popular searches to determine what news to produce. They also carefully track a variety of engagement signals for the articles they publish, weighing the potential advertising revenue in whether to adjust the content or pay for additional promotion (Nieborg & Poell, 2018). A few sites have discarded editorial judgment entirely, relying on data from user search queries and ad purchases to decide what their content farm of producers should quickly cover (Anderson, 2011). These metrics may command the attention of users as well: van Es (2020) argues that YouTube's public display of "views," the count of how many times a video has been played, "has established itself as the central structuring agent of YouTube" (p. 224).

These observations resonate with broader sociological attention to the contemporary fascination with calculability, quantification, and rankings (Berman & Hirschman, 2018; Mennicken & Espeland, 2019).

Espeland and Stevens (2008) highlight three concerns: that quantification: encourages "commensuration" (p. 408), the tendency to compare incommensurate things simply because they can be measured and then equated on a numerical scale; that measurement is typically met with "reactivity" (p. 412), whereby individuals and institutions that know they are being measured, and knowing that resources or other benefits will be contingent on their rank or assessment, orient themselves toward being measured; and that the proliferation of measurement technologies and techniques functions as forms of "discipline" (p. 414), encouraging us to embrace incessant surveillance.

Such tendencies are only intensified by the scope of data made available by the Internet, the Web, apps, and digital platforms. This datafication, "the transformation of social action into online quantified data, thus allowing real-time tracking and predictive analysis" (van Dijck, 2014, p. 198), is in turn linked to concerns about comprehensive surveillance and the death of privacy (Zuboff, 2019) and about the ways such data are used and misused, often in ways that reinforce existing patterns of privilege and power (Eubanks, 2018). Put together, things look bleak: This "metric power" threatens to take hold of modern societies such that "we live through them, with them, and within them. Metrics facilitate the making and remaking of judgements about us, the judgements we make of ourselves and the consequences of those judgements as they are felt and experienced" (Beer, 2016, p. 3).

Still, these reasonable concerns about quantitative metrics in newly powerful digital platforms should be in dialogue with sociological research on how metrics are actually used in everyday working practices. Producers' relationships with audiences are in fact complicated and highly varied. Some research, for example, suggests that some media workers believe that their own professional or creative judgments should supersede what audiences want (Gans, 2004). Even with dramatically more audience information available, many media industry workers resort to their "instincts" to assess which artists to contract, which products to release, which aspects of those products to publicize, and so on (Hesmondhalgh & Baker, 2011).

Media professionals also mobilize audience metrics to mitigate the intractable uncertainty and unpredictability that plague media and cultural industries. In contrast with most other industries, each and every media product is different: Each film, song, or book is different from every other, making it difficult to predict what demand there will be for any individual output. Moreover, audiences use media products in highly volatile, context-specific, and unpredictable ways (Toynbee, 2006). Given this fluidity, audience measurement can be seen as a—constantly failing—way to reduce uncertainty, and thereby reduce financial risk (Hesmondhalgh, 2019; Miège, 1989). Of course, some workers and organizations are better positioned to obtain, interpret, and use metrics to manage uncertainty.

Still, however metrics are used to manage uncertainty, they cannot resolve uncertainty because they themselves remain endlessly open to interpretation. Petre (2015) shows how, whereas some news sites used metrics to rationalize the work of their writers—sometimes invoking in writers a range of feelings (stress, thrill, fear, dread, etc.)—some of their writers nevertheless discounted metrics based on personal beliefs about the complexity of audience behavior. Similarly, Christin (2020) examines how different professional values influence how metrics are used, contrasting practices in the United States and France. In a U.S. newsroom, editors made significant decisions based on metrics, but their staff writers tended to

be relatively unconcerned; in a comparable newsroom in France, editors were ambivalent about metrics, whereas their writers fixated on them as signals of their own public relevance.

So far, little research has been conducted on musicians' and music intermediaries' uses of digital audience data and metrics. Baym (2013) provides an early study of how musicians and music managers understood audience data, and the appeal and fallibility of the then newly pervasive social media metrics available to them. More recently, she notes the role of metrics in the "relational labor" of building and maintaining audience connections that sustain livelihood (Baym, 2018, p. 9). More recently, Maasø and Hagen (2020) found that data are becoming more central to the decision making of music professionals and that they are becoming more advanced in their use of it, influencing decisions about the long-term development of artists and which content to highlight. Workers they interviewed were increasingly reliant on "up-to-the-moment metrics focused on 'spikes,' or sudden or salient changes" (Maasø & Hagen, 2020, p. 27). Prey's (2020) research focused on the feelings invoked in musicians by the abundant metrics available to them, including anxieties about being judged on the basis of metrics rather than their music and broad effects on musicians' sense of self-worth and self-value.

We take inspiration from Nafus (2016), who urges a reconsideration of how to study data as they proliferate, reminding us that data are always a "thing in the world," taken up by other stakeholders, incorporated into specific social and economic practices, and interpreted in the context of work being done with and around them (p. 384). She calls for exploring how people "domesticate that data—what people make of what the machines are telling them, and what resources are available to do this" (Nafus, 2016, p. 394). Fiore-Silfvast and Neff (2013) explore how different stakeholders labor under various "data valences," framing the value and expectations they have of data in different ways. Some may value data in terms of their actionability, others as a means of ascertaining the truth, and still others as an object over which to connect and converse. When different groups meet—say doctors, patients, and "quantified self" enthusiasts—they may dispute not only data points, but also the valences through which they should be understood.

In line with Nafus (2016) and Fiore-Silfvast and Neff (2013), this article examines how musicians and music professionals interact with, make sense of, and deploy those data at work. We find that they engage in their own sensemaking practices, different from what data providers might suggest, becoming data analysts in their own right as they ask and answer questions with the data they have at hand. Sensemaking is a critical part of organizational life, in which group members exchange interpretations of ambiguous situations (Mills, Thurlow, & Mills, 2010). Rather than approaching decisions and outcomes with a fundamentally rational calculus, professionals draw on elements such as personal identity, use past experiences to interpret present events, focus on certain cues at the expense of others, and emphasize plausibility rather than accuracy (Weick, 1995). This sensemaking provides the magnetic pull that keeps an entire professional field together. Anand and Peterson (2000) suggest that audience metrics like Billboard data have long played such a role for the music industry, even in the face of doubts about the data themselves.

What Metrics, and What For

Rankings and sales have influenced the music industry for decades: Consider the hit parades and the awarding of gold and platinum discs to mark sales accomplishments. Music streaming platforms have altered this landscape with metrics that purport to measure the identities, activities, and preferences of audiences in granular detail. There is no question that potentially useful data are more available than ever before.

On Spotify, the most widely used paid streaming platform in Europe and the Americas, the most prominent publicly available metrics include the following (see Figures 1 and 2):

- Playcount: a measure of how many streams a given track has received on-platform; displayed to users next to the most highly played songs from each artist, and in the artist's analytics dashboard for every track
- Popular: a list of tracks by a particular artist that appears to be ranked according to a blend of playcount and recency
- Monthly listeners: number of unique listeners who streamed a particular artist during a rolling 28-day period
- Followers/likes: the numbers of users who have clicked "follow" or the heart icon on a playlist or artist
- Where people listen: the numbers of people listening to tracks by an artist in the five cities where the artist is being played most (Spotify, n.d.)

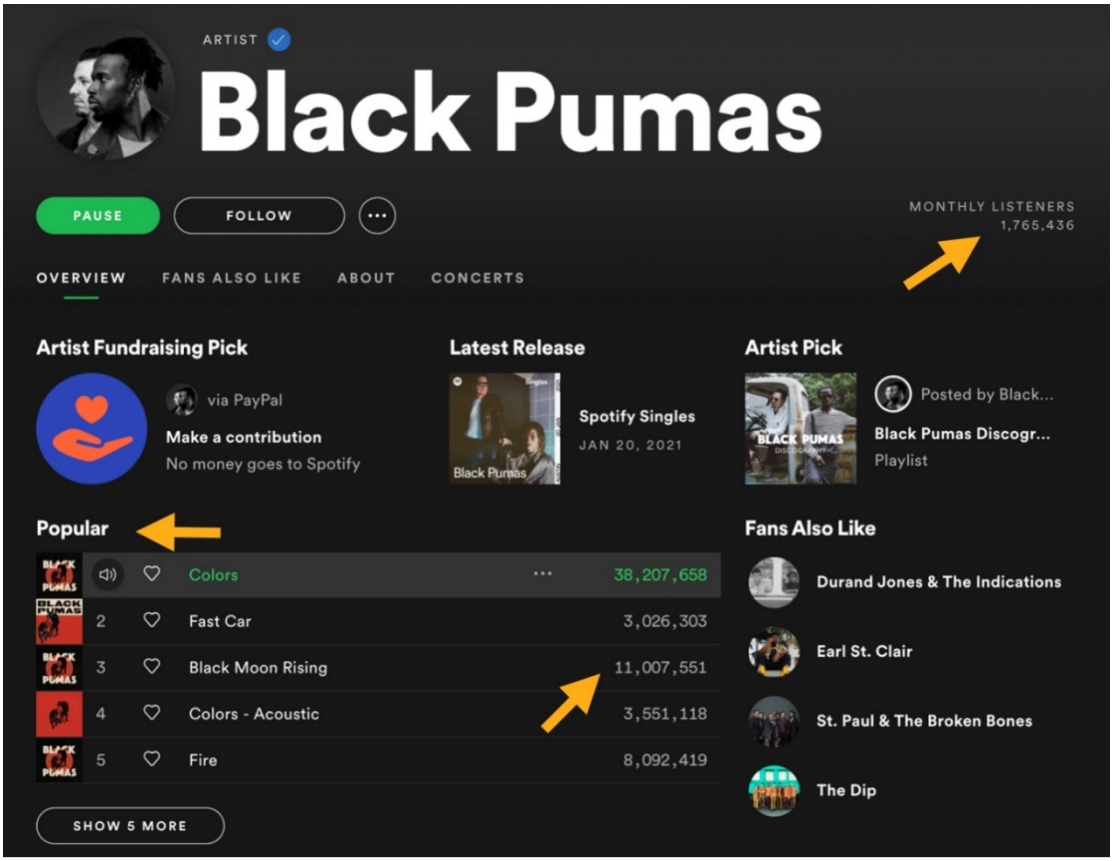

Figure 1. Screenshot of Spotify interface, with annotations. Taken January 25, 2021, on desktop application for Mac v1.1.51.

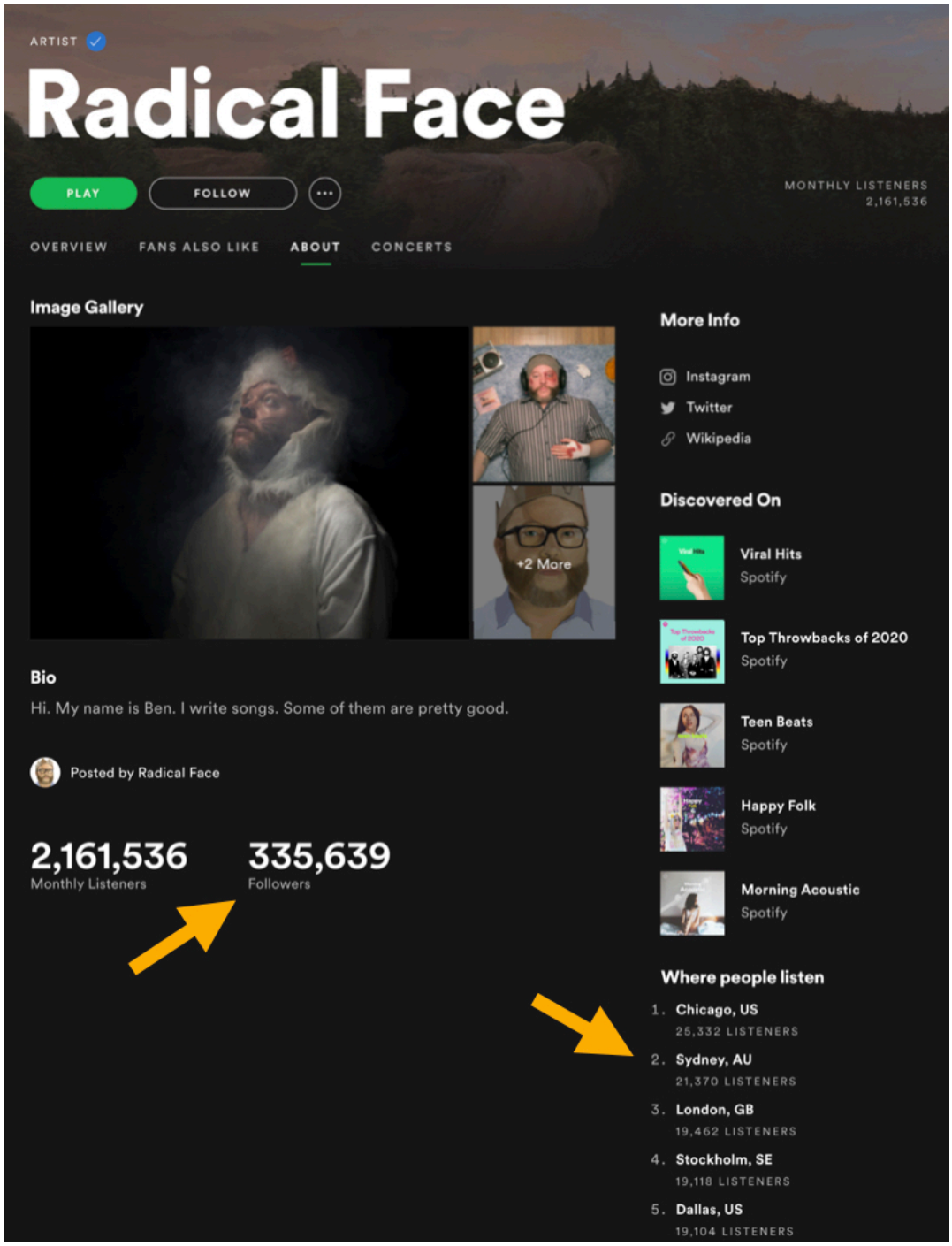

Figure 2. Screenshot of Spotify interface, with annotations. Taken January 25, 2021, on desktop application for Mac v1.1.51.

On YouTube (see Figure 3), the most widely used means of streaming music across much of the world, users can see

- Views: how many times a video (sometimes consisting only of audio and still images) has been played
- Likes/dislikes: how many people have marked a video using the thumbs up and thumbs down icons
- Subscribers: how many people have subscribed to a channel, which may represent a single artist, a label, or a collective of artists

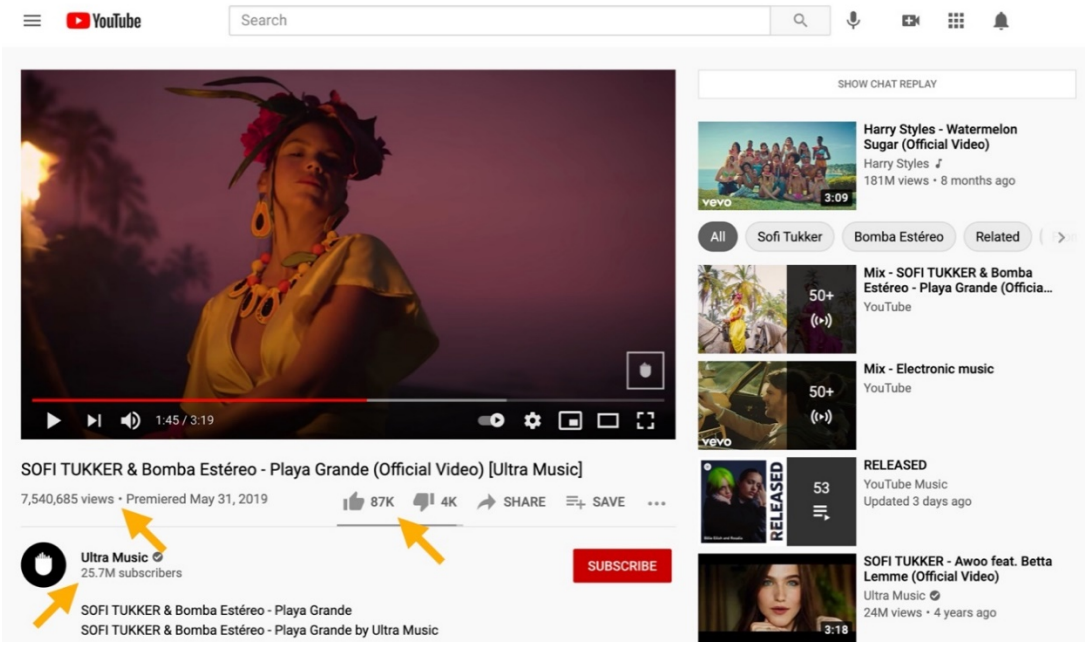

Figure 3. Screenshot of YouTube interface, with annotations. Taken January 25, 2021, via Google Chrome.

Importantly, these are not merely signals of popularity: The number of views has a relationship with income. The more streams a track gets, the more streaming revenue the rights holders associated with the track are likely to receive from Spotify (see Hesmondhalgh, 2020, for discussion of how the system works) and the more ad revenue they can potentially receive from YouTube.

In addition, Spotify, YouTube, and other streaming services provide analytic dashboards, offering a great deal of finer-grained data for artists and music industry workers about which of their songs are performing best and where (see Figures 4, 5, and 6). Freelance and precarious workers, who constitute an especially large part of the media labor force, now have access to such information; so too do vast numbers of amateur and semiprofessional producers. There is also a variety of ways in which media industry workers can access such "back-end" metrics from digital distributors (such as Ditto and AWAL) that act as key

intermediaries between artists and the streaming services. Unlike Spotify and YouTube, some music streaming services, notably Apple and Amazon, display few or no metrics to users, but they too make considerable data available to artists/creators.

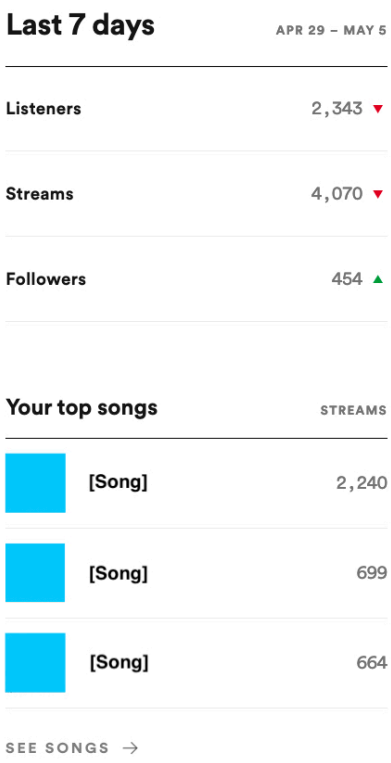

Figure 4. Screenshot of Spotify for Artists dashboard, anonymized. Taken May 6, 2021, via Mozilla Firefox.

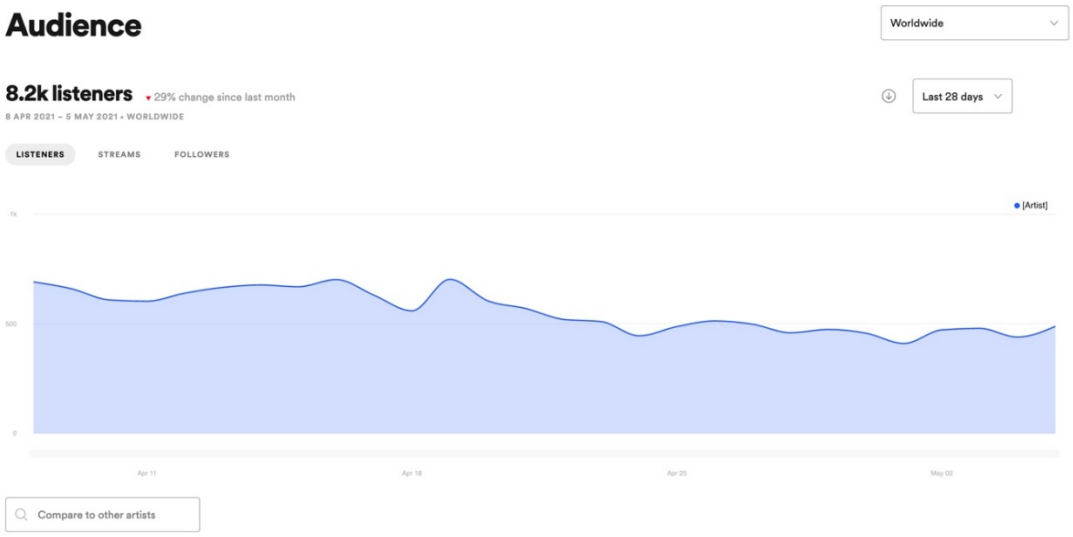

Figure 5. Screenshot of Spotify for Artists dashboard, anonymized. Taken May 6, 2021, via Mozilla Firefox.

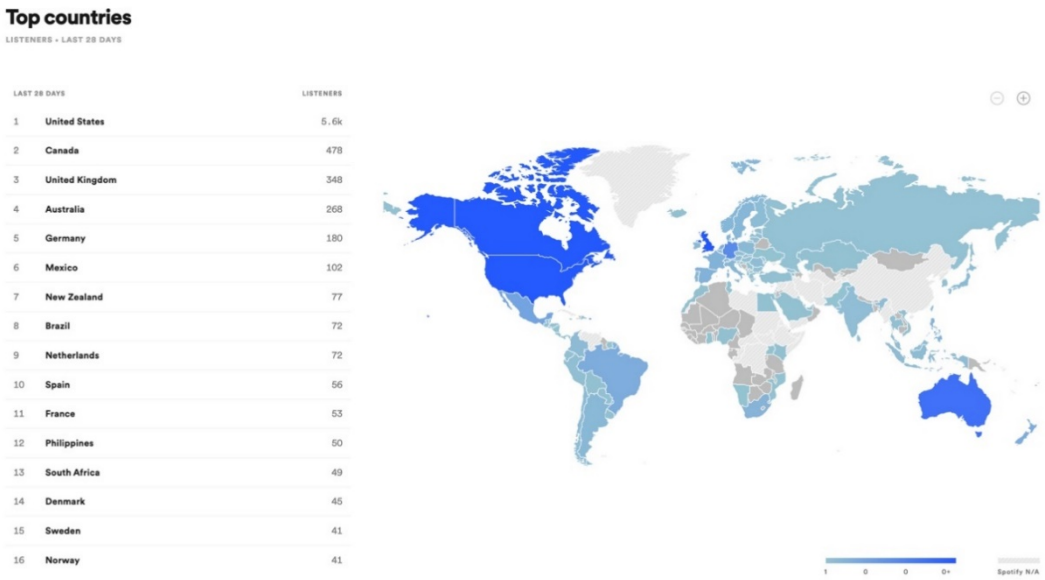

Figure 6. Screenshot of Spotify for Artists dashboard, anonymized. Taken May 6, 2021, via Mozilla Firefox.

In what follows, we draw on our survey and interview data to suggest that metrics serve two overarching purposes for musicians and others working in the music industries. Facing inward, they shape business decisions, allocate resources, and aid in strategic planning. Facing outward, they are used to craft

persuasive stories intended to motivate the future investments and commitments of others. Record labels use them to decide whether to sign an act, assess previous marketing, and budget marketing resources. Radio programmers and platforms use them in curation decisions. Managers, promoters, and artists craft stories out of numbers to persuade others to sign them, book them, play them on the radio, stock them in stores, and so on. The recipients of these stories perform their own interpretations of the metrics, sometimes reaching different conclusions. Platforms, powerful keepers of metrics, mobilize their access to numbers to tell different stories toward different ends, often to demonstrate their own value. For artists, creative autonomy comes up against "data" about what people like in ways that can lead either to seeking out new ways to reach fans or dismissing metrics altogether (see Baym, 2018).

The result is a system in which metrics are entrenched as standards despite their shortcomings and are made meaningful in their interactions by the stakeholders who need them to get things done. As we show, in making what they must of audience metrics, music workers confront their utility, ambiguity, and power. Interpretive tactics abound, including valorizing some metrics, redefining others, and dismissing some entirely. But if the ability to gather data and use them to persuade is a kind of power, some clearly have more of it than others. No one we spoke to—not even those at the platforms that produce so many of these data—felt they had access to all the data they wished.

Method

This study used a survey and in-depth interviews to investigate music workers' understandings and uses of metrics. The survey began with questions about their personal and professional music platform use. Then six free-response questions explored how they understand and use numerical counts and rankings. We recruited participants through Twitter, where our calls were recirculated and republished on music industry mailing lists. Eighty-four music professionals and music industry workers from 11 countries responded. Many indicated in their responses that they occupy more than one role, and that their takes on metrics shift accordingly. Respondents identified themselves as musicians and DJs (38); record label workers and publishers (27); promoters and marketers (20); music educators (17); music writers (18); music industry technologists (15); streaming platform workers (10); artist managers (9); workers in recording and production (13); music planners and curators (6); workers at music advocacy and funding organizations (3); live music venue workers (2); music event planners (2); and a concert promoter, tour manager, music retailer, radio DJ, music supervisor, composer, and a digital distributor.

To gain insight into the variety of perspectives across music-related industries and roles, we then recruited interviewees from those survey respondents, conducting nine semistructured interviews in late 2019 and early (pre-pandemic) 2020. Interviewees were based in the United States, UK, Canada, and Western Europe, and worked across a variety of roles, music genres, and geographies. Their roles included independent record label owners, small and large label strategists and promoters, artist managers, independent musicians, a music journalist, a music retailer, a head of global streaming strategy, and workers at multiple popular music streaming platforms. Interviews were conducted in person, with video conferencing tools, and over the phone. They lasted an average of 80 minutes.

We analyzed these materials in small teams, developing initial lists of themes through close readings, discussing them, and then coding survey and interview responses. Given that we could not generalize to all strategies used by all participants in all music industries, in the second stage of analysis we turned our attention to "vignettes," moments or examples that were particularly revealing of trends we saw throughout the materials and that spoke to the range of participants, breadth of practices, and variety of contexts.

Making Sense of Metrics for Internal Purposes: Guiding Decisions

Labels, managers, booking agents, and platform reps alike spoke of using metrics to guide their own decision making. Labels big and small turned to platform data and other third-party sources to decide whether to sign an artist, to whom and how much to market, and which songs to release as singles. A promoter for a small Christian music label looking to choose songs for radio told us a high playcount might suggest, "Oh, well, this has naturally popped up, because we haven't marketed that song. It hasn't been featured somewhere. So, consumers are finding it and coming back to it." Metrics may also shape strategic business alliances. One European artist manager, considering other acts his artists might tour with, described looking at those acts' comparative popularity to find "somebody who's punching a little bit above our pay grade, so that we can leverage on their audience." On the other side, metrics can shape who gets gigs. A booking agent in our survey wrote that although metrics do inform which acts he might book, he found that "the relation between spins and concert tickets sold is unpredictable."

This unpredictability means that metrics are rarely treated as definitive or unproblematic. Although a few of the music professionals we spoke to seemed to trust the metrics available on music platforms, it was rare to hear that trust expressed without qualification. Consider that same booking agent's assessment: He described album and track playcount metrics available through the Spotify for Artists dashboard as "showing success in real time," allowing his company to "lean into what we want to promote," and described sometimes changing their plans based on those playcounts. Yet, the same platform's monthly listeners metric he dismissed as a "vanity metric [that] does NOT equate to 'monthly fans.'" Spotify's followers metric he described as completely uninterpretable.

Underlying much of this work is an effort to use metrics to find "real" fans, rather than those who listen only to one song and are unlikely to spend money on the act. But translating any metric into meaningful engagement remains challenging because data can be read in different ways, suggesting different business decisions as a result. For example, several of our participants pointed to location data as particularly important. "Let's go look at where we have the best listenership," said the European artist manager, hoping to cultivate the band's regional following, "or maybe like our mid-tier listenership, but we want to grow it there because we think there's an opportunity. That also kind of ties into when thinking about touring." Predicting ticket sales based on location-specific data is famously fraught, however: As one label rep warned, most promoters "have had fingers burnt by booking acts based on top cities/territories when they find out that the act have inflated numbers due to laid back listeners and not many actual fans." Another rep managing the digital backend at a boutique label told us,

> If you can sort of pinpoint that . . . there's a lot of interest for you within a particular area or equally a particular demographic, it kind of tells—it tells you first of all who and where to target your, you know, or where to focus your energies. But I suppose it also tells you where you're not doing well and where you need to, you know, where you might need to kind of put in a little bit more effort.

These ambiguities must be resolved or set aside in the service of getting things done.

These tensions are relieved, at least momentarily, by making sense of the data to support the business decisions that need to be made. We identified three specific strategies. First, music professionals turn to some metrics as reliable enough and dismiss others. This can include combining metrics into ratios that seems to reveal information that one metric by itself does not. Second, they compare metrics across platforms, including from non-Internet sources like ticket sales, frequently running into inexplicable incommensurability. Third, they rely on contextual information, such as music genre, to set benchmarks for what constitute good numbers. Overall, they try to build holistic understandings informed, but not determined, by the metrics they have. Let's look at each strategy more closely.

One way to get around the ambiguities of a particular metric is to put it in direct conversation with another. Some of our respondents developed ratios of metrics as standards for identifying "real fans," such as this artist manager:

> I am mostly interested in the ratio between *listeners* and *streams*. I notice that often times, when we get placed on a big Spotify playlist our listener to stream ratio is almost 1:1. When we get placed on an independent playlist, like Okayplayer's The Round Up, for example, the ratio can be as high as 1:5. . . . This just shows us that we are developing real fans, not just single-use listeners.

In addition to differentiating metrics on a platform that offer actionable insight (either alone or in combination) from those that can be ignored, participants also compared similar metrics from different platforms, again finding it difficult to make sense of the differences, yet nonetheless acting on them. That European artist manager, who also worked for a streaming platform, noted that some of their artist's songs did better on Apple Music than Spotify, which then influenced which links they would post for which songs on which social media, even though "we can't come up with quite like a hard and fast rule for it." Even when the sensemaking effort more or less failed them, it did not prevent them from making strategic decisions based on those data.

People reported trusting some metrics from some platforms more than others, especially when they seemed more likely to reveal those "real fans." That same European manager found Apple Music for Artists' inclusion of Shazam listens as a data point "super interesting, because that's when you know somebody is genuinely seeking out your music." One weekend's Shazam spike sent them "frantically searching all over the Internet" to find its cause, eventually tracking it to a radio station in Los Angeles. One artist manager found location data important but preferred "using this data from a platform like SoundCloud, which tends to lean into a lesser audience but higher engagement from what we consider 'real fans.'" If no

one platform seemed to have all the answers, perhaps information was better gleaned from all of them. Artists with "real fans," as one label's digital distributor explained it, are those that have "healthy engagement across platforms."

Finally, several professionals we spoke with set their own context-based benchmarks, based on information like genre, to guide their decisions. Take, for example, the Christian music label promoter, who explained that benchmarks for Christian music should not be compared with those for related genres like gospel, worship, or pop:

> You know, gold records were 500,000, and in the Christian market, not always a guarantee . . . and so then, when you've got worship songs that have 50,000,000 streams, it's hard to compete against that . . . [or] against a pop song that easily gets that within the first week. So, for us, context is important for the genre that we're in.

Granular streaming data could also be made sense of in reference to demographics; a surge of interest might appear to both confirm assumptions about that demographic and indicate success in having reached them. Still, some fretted that, as much as carefully contextualized metrics appeared to tell them, much still remained unknown. A record store owner noted this uncertainty, even as he used a variety of metrics to assess the local hip hop scene to plan store events:

> You want to be aware of how many people are going to be there or not, right? So, you need to have some awareness of that. But certain people have outsized reputations in the press that don't make any sense with the number of Spotify plays that they have, and vice versa. . . . I was like, "Let's take like the 50 or so artists that I'm most interested in locally, put them there, and I'm just going to start tracking Spotify monthly listeners." . . . I can look at Lord Felix and Cliff Notez and Oompa and have an idea, based on their Spotify numbers and to a lesser extent SoundCloud or YouTube, and just know versus each other what's happening, and you can construct a hierarchy that way. But I don't know whether that means—I have an idea, but I don't know whether that means they fill a 100-person club or an 800-person club, because all of that other data is missing.

Making Sense of Metrics for External Purposes: Being Persuasive

In the previous section, we saw music professionals selecting, dismissing, comparing, combining, and interpreting metrics in the service of their own business decisions. Our respondents also sought to render those metrics credible and convincing in the service of persuading others. This meant not only interpreting metrics, but making them part of a persuasive story about what fans are doing and why a particular investment or prediction makes good business sense. Managers described telling stories to get their artists played, signed, and booked: As the rep from the boutique label noted, "If you can demonstrate that a lot of people are listening in a given city, . . . it might sway a booking agent who is undecided between you and another artist. . . . It helps also with local press."

Sometimes metrics were used to connote certainty, even when the person deploying them did not find them particularly certain. This interviewee, who works for a platform, explained how all metrics provided fodder for building stories that serve the platform that created those metrics, while also signaling who has the power. "For some reason, data makes it sound smart and good":

> It's a dog whistle to imply that we know what we're doing, and we have information. [It's talking to] a digital streaming platform, talking to a label or to an artist to imply, "Hey, we have information that you don't have," or "We're providing you some information but not all of the information that we have."

Do they have faith in that data from which the platform's power derives? Not quite:

> We have no idea what we are actually doing here. . . . One of the ways I rationalized [my job] really early on, was that my job was just to tell a story. I was a storyteller. . . . Just how to make numbers tell a particular story and making sure the story being told is one that is not entirely truthful, but at least truthful enough within the realm of possibility for what our team or company can accomplish.

Metrics need not be precise; in fact, they seem to work best when delivered in broad brush strokes. One particularly forceful trope that recurred in our interviews was a "million" and its multiples. "A million has probably been—kind of raised as this pedestal of, 'that's a big number,'" the promoter with the Christian music label told us. In that genre, "if something is five million streams or more, that's a talking point for us. Or even two million streams, without radio affecting that, that's a movement." If "the Spotify number" is over a million, they would go with that. Other times, a million needed to be assembled: They would "pull the Nielsen—the combined number across all those platforms. . . . Honestly, whichever just gives us a better number."

In addition to pointing out big numbers, emphasizing positive change over time could be persuasive. That boutique label rep, for example, talked about trying to get the Spotify editorial team's attention to get playlist placement:

> You kind of want to give the impression that this is an artist that, you know, kind of has a growing track record of attracting plays. And so you probably would, through Spotify Artists, . . . say, "Look, this one's on the up. This one did really well in Manchester or New York or whatever."

Here too, however, metrics have their limits. That same manager, after noting that Twitter followers can be bought and plays can be automated, admitted, "I think you could have the greatest metrics in the world but if the song is terrible, then you're dead in the water, really."

Metrics are also made persuasive against benchmarks created for the purpose. One platform employee revealed how they used metrics to make a case to their team:

> I wouldn't call it a specific number. I think it's more in the framing. So, I think it's the framing that says that you have a baseline. You establish a baseline of something, but you make the baseline something that you can easily hit. . . . So that way when you're presenting to the people later on, they feel like you smashed through that initial baseline.

In other moments, making metrics persuasive meant narrating the process of their production. The Christian music promoter, for instance, found they had to "educate" radio programmers as to why the promoter's numbers were good, even if they did not look it:

> We have had to slowly educate and continue educating radio programmers about what those numbers are, how they're calculated, and how often they get pulled or how often we can share those. And it has just been a constant education process in my job for—to tell and show them what those numbers actually mean. . . . Where are those streams coming from, what's the difference, and why is one better than the other?

Of course, how these metrics are actually produced is opaque. So even the promoter's attempts to educate depend on partial knowledge and folk theories (DeVito, Gergle, & Birnholtz, 2017)—itself a kind of sensemaking.

On the receiving end, such narratives about quantifiable promise or success are open to the same kind of skepticism and reinterpretation these professionals expressed themselves. The booker, radio programmer, or curator of a playlist may rely on gut instinct, or they may bring the kinds of tactics described in the previous section to interpret the stories they are told. Trained skepticism is very much part of the job: When managers "sort of paint a more positive picture of something than really exists because they're trying to get a deal signed for their artist," the mid-sized label digital distributor saw it as a task to "dissect that and make sure that we're taking a real look at what's going on and not just taking someone's word for it who has something to gain."

Our interviewees, in practice, were often both persuading and targets of persuasion. The European label rep frequently got pitches that invoked Spotify's monthly listener count, which they did consider "as kind of an initial gauge." But they knew to look at those numbers in relation to when songs were released, taking into account factors like the historical growth of Spotify's user base or the way placement on a Spotify playlist can radically boost one song's metrics. The digital distributor reported that, when considering who they should sign, their label looked at ticket sales data when available or they asked around. It is especially difficult, they said, in countries where they did not know the trends. For that they would "lean into the local contact and just ask them to give us a little bit of context or provide a little bit of, you know, commentary."

Ultimately, if metrics are indicative yet insufficient, those making business decisions based on metrics see themselves as seeking holistic views that combine data across platforms with their own musical expertise. Such expertise provides caveats to be deployed around metrics, as well as narratives into which metrics can be placed. "There's a lot of just knowledge that you build up about what certain things signify," explained a buyer for a record store:

> So, it's either the label—what does that mean? What does the press—who are the press that's writing about them, right? Like what does that mean? What does—what do the streams look like? What does that mean? . . . So, you get a sense for when I add this, this, this, this, and this together, what do they equal? So, somebody could be in the beginning stages of getting a lot of streams, but you know that it means something different than somebody else with the same amount of streams. I mean, the streams don't always equal the same things.

Telling Stories With Data Requires Data

We have been describing ways in which metrics are taken up and deployed as a mechanism of insight and persuasion. But the capacity to tell stories with data also requires access to data, which is by no means evenly distributed. Some have more access, more interpretive skills, and more ability to make decisions and persuade effectively with data. Some have access to knowledge about how the data are collected, but others do not; some have the power to direct what gets measured, and others must take what they can get.

From the early 20th century onward, record labels occupied a dominant position in music industries. Even now, the major labels wield much more power than their smaller counterparts. Those working for major labels have extraordinary access to data and teams of people to analyze them. One survey respondent told us,

> Working at a major record label, we have access not only to Spotify for Artist dashboards, but also large volumes of data procured through the license agreements held with DSPs [digital service providers]. This data is shared "raw" rather than pre-visualized, which gives us more control over how to interpret it.

Yet, managers at record labels, especially small ones, were notably frustrated at having fewer data than the platforms that collect them. "We would be able to do a much deeper dive into how our content is performing," the boutique label rep told us, who wished they could conduct artist-by-artist or even track-by-track analyses for their artists. "But we don't have access to the data that we need to really run the analysis. [The platforms are] all are pretty comparable. . . . There's a lot of contextual data that is missing."

Many of our interviewees had wide-ranging ideas of the kinds of metrics they wished they had. Some wanted data unlike what were available; for example, one wished they could know whether users were in the car or not to help understand why they stopped listening. Others wanted the data they did have to be much more granular: contextual information around each stream, such as the time of day or the user's specific location; contextual information around signals of popularity, such as which songs were popular with listeners newer to the platform or newer to the artist; and contextual information about the listening session of each user, such as what they played next, whether they played an entire album, or whether they returned to that artist later.

One metric wished for more often than others was "skip data": information about whether a song had been played partially or entirely, at what point in a song users tended to abandon it, and whether skip practices were different for different listeners:

> I think there's a lot of contextual data that you—that is missing. So, like knowing how many users, let's say, listen to all of the song versus only half of a song versus only a quarter of a song, right? So being able to tell at a very granular level, not only how many people are necessarily listening, but what their listening practices are, right?

This desire for skip data often came with speculation as to why platforms did not provide it. Some suggested that the streaming platforms must certainly have such data, or could gather them if they wanted to, which meant they were withholding it deliberately. Some pointed to providers in other media, such as Netflix, which does offer information about when users stopped watching an episode. Others noted that smaller competing platforms like Bandcamp (which is not so centered on streaming as the bigger services) did provide skip data. One indie label representative suspected that skip data would undercut the platforms' claims about scale, as some of the playcounts are "not actually equivalent to an entire stream or play or view."

Contextual, granular data, and more of them, is a premium. Managers and labels that can afford it might be able to get more data from Spotify by building a direct relationship around valuable artists. Others pay for the services of a digital service provider that both streamlines the delivery of their music to multiple platforms and provides more detailed data back to the client. Independent labels and bookers, and most musicians, are resigned to the data that are provided by the streaming platforms, with little say in how they were collected. This is the power held by the platforms: not just having the data, but deciding what to offer and withhold in what could be seen as fickle or self-interested ways:

> It's a permanent present, Spotify is. . . . I'm looking at Spotify for Artists page now. And it's only showing me two playlists that we're on, and I know for a fact that we're on more playlists than that. And I think that's because the playlists that it's showing me have a certain amount of activity on them. . . . They either think it's not worth you seeing or it's not worth their while you seeing it. So, it doesn't—so "granular" . . . implies that you can go down to the tiniest level, but when actually you can't. There's only so far you can go down into this data. And I think because it's in the genuinely granular data that the really insightful information can be found, and that's why they don't let you get at it.

Most powerless of all were independent artists, who either had access only to the dashboards furnished to them by platforms or relied on the metrics users could see. They could also be limited by expertise, motivation, or simply being overburdened. One independent UK artist we spoke with, for instance, knew that using geographic data could make touring more economical, but their sense that "if we can extrapolate that data . . . that's really useful" was followed with an acknowledgment that they did not actually use such information. "I feel like maybe I should. I feel like we've not really been data-smart of late."

Yet, even for well-resourced record label employees, having access to more data hardly offered an exact science for finding real fans or drawing the right comparisons. As one label rep wrote,

> Sometimes a record is popping at YouTube and not on Spotify, popping on radio but not on YouTube, popping on TikTok but not on YouTube (but on Spotify). We're watching a cake bake right now and hoping we got the ingredients right, but it's still a lot of trial and error until we have a few cakes come out perfectly.

Discussion and Conclusion

We have unpacked a range of ways in which music industry workers use, frame, question, and contextualize the metrics available to them. Far from rejecting them, we found their concerns with metrics to be pervasive, but not naïve. Our participants found a variety of ways to probe, question, qualify, and challenge these metrics, while by no means abandoning a sense of their overall value. Decisions were guided, rather than determined, by reference to these available numbers, which were often used as a basis for making predictions, telling stories, conveying trajectories, and exercising persuasion. No doubt some such uses of metrics come close to hustling. But our research suggests that industry insiders are sophisticated in their ability to contextualize such stories, sometimes by mobilizing other data that might be available. There was also a widespread understanding that some actors are much more interested in and captivated by numbers than others, and so there are times and contexts in which metrics are much more useful.

These practices are quite remote from dystopian notions of a world in which music industry workers are enamored of numbers and led by them to ignore, simplify, or misunderstand the messy realities of the business of music, creativity, and taste. Nor did our research reveal much evidence of the generalized commensuration and reactivity identified by some scholars as responses to quantification and "metrification." Perhaps this is because the music industries attract people who tend to be at least somewhat suspicious of rational or scientific thinking, at least as applied to the cultural domains in which they work, or at least understand that it involves interpretation, ambiguity, uncertainty, and tacit knowledge.

Seeing the increasing pervasiveness of metrics entirely or even mainly through the lens of rationalization theories does not really capture the diverse practices and forms of agency to be found in the complex and multifaceted work people do with them. The range of empirical realities uncovered here resists any simplified tale of music industry workers as victims of a metric power orchestrated by the tech industries. Yet, it would be equally mistaken to think of the increasing availability of data and metrics as a form of democratization or a means for greater transparency. The sheer range of potential data available represents a considerable challenge for many people working in the music industries. Metrics provide openings for those who are prepared to invest time and energy in collecting, interpreting, and framing them to gain advantages. But of course, this requires time, expertise, resources, and most importantly access to the data. The best-resourced and most powerful actors continue to be able to use metrics most effectively toward their goals.

The longstanding quest to "know the audience" has not been fulfilled by the rise of digitalization or the expansion of audience measurement techniques. Instead, attention to data has gotten more granular,

more in need of triangulation with numerous other data sources, and at times more neurotic. The media industries continue to be where workers "make do" with the resources provided by the systems of which they are part, and upon which they increasingly depend, in order to manage the uncertainty that is endemic to the business of culture.

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