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Datafication, Literacy, and Democratization in the Music Industry

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ABSTRACT

This article frames the relationship between datafication and literacy as a key to understand participation, power, and processes of democratization in a platform-dominated music industry. Drawing upon a Norwegian survey (n = 555) and in-depth interviews with music-industry actors, the analysis demonstrates commercial benefits of data-usage, and why many have yet to take advantage of datafication's possibilities. The article indicates that datafication creates and maintains a digital divide in the music industry, with service providers as gatekeepers, datafication a core activity, and data a prime commodity. And meanwhile, the data-literate partner achieves power and positioning, making data literacy a key resource in and of itself.

KEYWORDS

datafication;
democratization;
digitalization; media literacy;
music industry

Introduction

At the heart of the entire business of the music industry is artists' relationships with their audiences. Baym states, "As technologies change, dialectic dynamics that undergird artist-audience relationships change too. Technologies reshape the contextual pressures on the relationships, and in doing so, reshape the relationships themselves" (*Playing* 55). This article addresses the state of the artist-audience relationship at a time when the global dissemination of music is happening mainly through digital technology. On-demand music-streaming services such as Spotify, Apple, Deezer, and Tidal are presently the most important vehicles for recorded music distribution, and music streaming accounted for 62 percent of the generation of worldwide recorded-music revenues in 2020 (IFPI). Streaming music distribution aligns closely with networked content dissemination through social-media platforms such as Facebook, Twitter, YouTube, and Instagram (Baym, *Playing*; Hagen), but the impact of these online media platforms upon the digital music industry is not confined to their extended audience penetration across global markets. More important for this article is these platforms' facilitation of a new information system – one based on the way in which people's interaction with online content leaves behind a measurable trail that can be both aggregated and analyzed as data (Napoli 86). In short, content and information flow not only from content providers to audience members but also from audience members to content providers, via the platform services. "Put simply, what we once called audience has been replaced with a new actor called the end user, an actor that is

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essential to the formation, operation and sustenance of digital information networks” (Anderson 15), and, as this article will illustrate, fundamental as well to transitions in the marketplace (Napoli 89).

The practices of aggregating and analyzing the “return path data” (Napoli 88) for commercial purposes were in 2013 labeled “datafication,” a term meant to evoke “humankind’s ancient quest to measure, record, and analyze the world” (Mayer-Schönberger and Cukier 78), which is now incredibly pertinent to the music industry. In “the platform society,” datafication, together with commodification and selection, is one of three main mechanisms representing key processes for how digital platforms operate (van Dijck, Poell, and de Waal). To some extent, datafication has always informed the music business through the measurement of related activities – primarily sales, radio airplay, and, to some extent, advertisement exposure (Data). Online media platforms, however, have enabled an unprecedented volume of quite granular data to be harvested in new and more readily available ways, and this ability has come to impact both interactions between artists, audiences, and industry representatives and overall directions, relationships, and opportunities in the music industry. In addition, data and metadata now appear to represent “a regular currency for citizens to pay for their communication services and security – a trade-off that has nestled into the comfort zone of most people” (van Dijck 198), and, increasingly, a value far exceeding these data and metadata’s cost to content producers and service providers.

The research on datafication in relation to the music industries has so far explored data usage in service activities and business-development practices among platform providers in ways that increase the platforms’ positions as gatekeepers in the digital music industry (Bonini and Gandini; Morgan; Prey, “Datafication,” Prey, “Knowing,” Prey, “Locating”; Negus). How music-industry actors approach these data and can make use of them to inform their work with audiences and markets, remains little explored, however, with a few exceptions (Baym, “Data,” Baym, *Playing*; Maasø and Hagen; Nordgård), and datafication is generally weakly covered in the academic music literature. While the topic has been well-covered within trade publications, more critical perspectives are needed to balance the stories about how music companies and industry stakeholders are “working to expand technology infrastructure, data expertise and information solutions that offer artists greater amounts of control, convenience and knowledge to advance and grow their careers” (IFPI). To this end, this article develops some basic perspectives to add to the industry-dominated discourse, starting with the following general questions: What significance do digital data have for actors in the current platform-centered music industry, and how does datafication impact the artist-audience relationship in the digital age?

A central focus of the article will be whether the ability to access and analyze data – or what might be called data literacy – has become a key skill or core component for success in the digital music industry. It already seems clear that datafication sparks new audience-industry feedback loops that influence, in turn, the ways in which actors work with music today (Wikström 86). These changes impact the cultural, economic, and political balance in the music industry and beg the question of whether digitalization has *democratized* the music industry, so that participants are newly able to “exercise collective decision-making over that thing [i.e. the music industry] in a relatively equal way” (Hesmondhalgh 101). Hesmondhalgh points out that the democratization label, in the

context of the media (including the music) industries, is often used “simply to refer to an increase in access, either to making or consuming media products,” but it can also be “used to refer to change that might improve or reform the media by bringing about greater levels of equality in collective decision-making over the operations of the media” (101).

In this article, democratization describes the possibility of datafication to pave the way for more equality among the actors in decision-making, production, and distribution in the music industry – a possibility explored via empirical evidence from Norway. Norway was one of the first markets to adopt music-streaming services, so it is likely that Norwegian music-industry actors are familiar with the new forms of competition entailed by the digital landscape and have come to terms with the skills and literacies demanded by online music distribution. In Norway, streaming revenues surpassed revenues from physical sales as early as 2011 and currently account for more than 90 percent of the total recorded-music revenues generated there (IFPI). To provide more context for the rise of datafication in the current music industry, I will next review existing research in this area.

Analytic Power and Datafication as a Business Idea

Datafication has fed into streaming providers’ content delivery, playlist making, and algorithm creation from the start, shaping the ways in which music is both supplied and accessed via streaming (Pedersen). Prey addresses the impact of data upon the development and content supply of streaming services (“Knowing”), and other multiple-data-point services such as Pandora and the Echo Nest (acquired by Spotify in 2015) (“Datafication”). Maasø and Hagen draw attention to how datafication creates reinforcing feedback loops between metrics, data-based decisions, and algorithms in, for example, playlist making, and Wikström stresses the importance of reckoning with such feedback loops in the interest of working professionally with music, as they give rise to (or end) entire fads, brands, acts, and genres (88). Moreover, datafication triggers innovation and plays a substantial role in defining the fragmentation and convergence that characterize the digital music industry (Tschmuck), with impact on structures of power and gatekeeping (Bonini and Gandini; Morgan; Seaver, “Captivating”). At the same time, the actual and potential power of (IT) corporations and streaming services to harness and analyze data is opaque (Eriksson et al.) and little regulated, and the question of whether the abundance, convenience, and mobility of these data come at the expense of “democratic oversight of, and social justice within, culture and communication” (Hesmondhalgh 118) remains unanswered.

What is certain, however, is that datafication has implications for the ongoing development of tools and actors dedicated to harnessing and handling the data themselves (Negus). To these ends, new kinds of platforms, interfaces, and software packages are constantly appearing to cater to labels, artists, brands, publishers, and managers as part of a commercial information system (Napoli) involving platform providers that are capitalizing on the datafication trend. With its “first mover” advantage in the streaming market,

Spotify is the most successful actor to date at acquiring and providing music metrics. Spotify for Artists launched in April 2017, following a beta version called Fan Insight from 2015. This B2B interface enables its artist-users to update their profiles directly through the app while also consulting relevant statistics and real-time tracking of plays and moves, as well as insights about listeners' preferences, networks, locations, and demographics (Lennon). The similar application Apple Music for Artists launched in August 2019 and features the integration of data from the music-recognition app Shazam as part of an exclusive platform offer.

This incipient platform trend encompasses YouTube, Facebook, Twitter, Instagram, TikTok, and other platforms that have developed tools to supply content providers with metrics and statistics. In addition, several independent services such as Soundcharts and Chartmetric are flourishing, as Hu explains, while “working to consolidate streaming metrics and put high-level, actionable data intelligence in the hands of artists and labels of all sizes.” When such companies have succeeded, they have proved attractive in the context of converging business deals and third-party agreements with the biggest corporations and industry players: “Within the span of six months in 2015, Apple acquired UK-based startup Musicmetric (shortly before launching Apple Music), Pandora bought Next Big Sound, and Spotify acquired data science consulting firm Seed Scientific” (Hu).

Analytic power is obviously considered crucial to market success, and the acquisitions of Digster by Universal, Filtr by Sony, and Playlist.me and Topsify by Warner (Grant) – the takeover by the “big three” of companies generating huge playlists with many followers – underscore the particular impact of playlists on efforts to reach audiences and generate data. In comparison, small and medium-sized artists and labels generally lack the resources or capacity to build data literacy from the inside. Yet options remain. Actors are less dependent on traditional players in the production and distribution of music today (Tschmuck; Wikström), and “sophisticated customer (aka fan) relations management (CRM) software now allows techno literate musicians to do far more [with datafication] than count and sort by zip code” (Baym, *Playing* 117). In the end, tools, time, and skill are required to execute datafication professionally, and accumulating both is thus among the many tasks that do-it-yourself music entrepreneurs must complete (Baym, “Date,” Baym, *Playing*; Morris). The complexity of the digital music business asks musicians to strengthen their business skills and combine them with artistic skills to a greater extent than ever (Tschmuck). Of course, these new technological demands favor “people with some sets of nonmusical skills, not others” (Baym, *Playing* 69), which I will next confront via a theoretical framework on literacy.

Datafication as Literacy

Literacy as a concept related to media has historically been described using several overlapping terms (media, Internet, digital, information, data literacy, etc.), all of which relate to how people deal with information (Koltay; Livingstone). In 2007, the European Commission defined *media* literacy specifically as “the ability to access the media, to understand and to critically evaluate different aspects of the media and media content and to create communications in a variety of contexts” (Koltay 212). Literacy as

a concept can hence inform a critical exploration of how various actors experience the implementation of new technological infrastructures and adapt to change in their own ability to act and perform in their professional field.

Koltay explains that an academic interest in questions of literacy has developed around the ways in which digital media change the characteristics and role of information in the development of democracy, cultural participation, and active citizenship (212). This change has also been evident in the music industry and has potentially affected the “degree of democracy in media production” – itself a neglected topic in recent years, according to Hesmondhalgh. Similarly, Livingstone notes that not all definitions of media literacy incorporate the perspective of production, because users of media are generally receivers, not senders (7). When almost all activities in the value chain of recorded music can happen online, from creation and production to distribution and consumption, however, one can certainly investigate music-industry actors as (more or less) literate *media users*, particularly considering the increasing number of professionals who are more independent from other actors and more dependent upon digital media platforms. Whether this “independent platform dependency” has led to a more democratized music industry, however, is an open question. While online platforms (and the data they provide) are just tools, not determinants of either strategy or action (Koltay 211), their dominance has nevertheless created the condition that “we have to acquire an understanding and adopt meaningful courses of action by employing different literacies” (211). This imperative aligns with Gregg’s observation that, “in the data industries of the future, a range of skills and literacies is going to be necessary to maintain just and fair opportunities for all” (47).

Put simply, digitalization paves the way for new literacies, and actors must employ those literacies – that is, acquire both the actual data and the requisite skills to handle them – if they want to succeed in the digital world. When Livingstone discusses media literacy in relation to challenges related to new information and communication technologies, she highlights *access*, *analysis*, *evaluation*, and *content creation* as four key components that together constitute a skills-based approach to media literacy (5). These will prove important to this investigation’s attempt to understand datafication as literacy and its potential impact on the democratic enterprises of music production, music distribution, and music management.

Methods and Material

In the article I take a mixed-methods approach combining insights from a large online survey and seven qualitative interviews.¹ The Norwegian Center for Research Data (NSD) has confirmed the study to be in accordance with the privacy regulations of Norwegian law.

The survey had an overarching interest in digital distribution and music export, so the target group was musicians, composers, and intermediaries (labels, promoters, bookers, managers, publishers, and others) across different genres and functions in Norway, all of whom had professional experience with Norwegian music in international markets. To reach

¹Some of the quantitative figures and results presented in this article, are also presented as part of a large Norwegian online report summing up the research project in which the survey in mention was conducted. See Hagen et al. 2021 for more.

this group, an online survey spreadsheet was shared in collaboration with the biggest music-industry membership organizations in Norway¹ through e-mails, newsletters, websites, and social-media channels. The spreadsheet was out in the field from late November 2018 to early February 2019 and supplied a washed sample based on 555 relevant answers. The material was analyzed with help from a research assistant via IBM SPSS Statistics, save for certain results requiring manual coding and interpretation, or anonymization when the answers might reveal recognizable information. The response rate as a percentage is unknowable, because the population (Norwegian music-industry actors with professional experience in international markets) is at once heterogeneous and of unknown size. The collaborating organizations were also unable to specify the number of their members with export experience. A sample of 555 respondents can be considered adequate for a survey on this population, though – the Norwegian music industry is relatively small and, out of the sample in question, 79 percent confirmed their international experience and out of the remaining 21 percent, 23 percent wanted to go abroad with the music they made or represented. These latter characteristics confirm that the actual population is well represented by this sample. The representation becomes even more complete when the variation in age, gender, location, education, years of music-related income and experiences, affiliations, and occupations is considered. Also, the sample represents several types of industry actors. Split into two groups, these constituted 79 percent artists (musicians, composers, conductors, studio producers, and actors working primarily with music creation and performance) and 21 percent intermediaries (booking agents, publishers, promoters, managers, label workers, and actors working primarily with the administration and facilitation of music production and distribution). Importantly, these categories were based on what the respondents claimed to be the affiliation on which they spent the most time, so the survey also questioned the respondents' secondary assignments and services.

The Interviews

The survey results are supplemented with insights from seven in-depth, semistructured interviews (lasting sixty to ninety minutes each) with anonymized key music-industry actors in Norway, primarily music managers. Managers are interesting because they work closely with artists in the interests of financial and artistic successes that will benefit them too, and they are often quick to adopt innovative music-industry practices such as datafication. These informants – five men and two women from the two largest Norwegian cities, Oslo and Bergen – were interviewed in spring and summer 2018. They all worked as music managers for Norwegian artists with a global reach, and most of them also offered label, booking, publishing, or promotion services. Their respective management firms included from one to ten employees and boasted rosters of one to twenty artists/bands in both mainstream and niche popular music genres. This selection of informants limited the ensuing discussions to practices generally related to a commercial, market-driven popular music context. In this article, the insights from the interviews provide a context for understanding various uses of datafication and help to probe the ways in which the artist-audience relationship in the digital music industry is changing.

Below, I will present results from the survey and start to address media and data usage in the sample. Then I will contextualize the role of digitalization and datafication while drawing upon qualitative results from the interviews and the survey.

Table 1. Respondents' rating of various media's importance for reaching international markets.

Type of Service	Often important (%)	Sometimes important (%)	Seldom important (%)	No idea/of no relevance (%)
Spotify, Apple, Tidal, Deezer and other on-demand streaming services	56.7	27.5	8.1	7.6
Radio	42.8	35.8	12.2	9.2
Facebook	68.5	22.5	3	6
YouTube	48.7	36	8.6	6.7
Personal website	36.9	36.9	16.4	9.9
Music Magazine (paper or web)	40.1	39.2	12.8	7.8

Sample Size, $n = 440$. Merging Often Important and Sometimes Important gives the following results in total: On-demand music-streaming services (Spotify, Apple etc.) = 85 percent. Facebook = 91 percent. YouTube = 85 percent. Radio = 79 percent. Music magazines = 79 percent. Other media were also surveyed, but only the most relevant are addressed here.

Analysis: Media and Data Usage

To address the function of various media in reaching international markets with Norwegian music, respondents were asked to rate various media types and platforms as *often important*, *sometimes important*, *seldom important*, or *no idea/of no relevance*. The questions were directed to the survey subsample with global experience ($n = 440$), with results as listed in Table 1.

The results confirm the importance of on-demand music-streaming services and other online platforms, such as Facebook and YouTube, for many in this internationally experienced sample and correspond well to statistics measuring the media dominance of current music sales and revenue shares (IFPI). A key takeaway is that, except traditional radio, all of these often or sometimes important media also provide insights and data to content owners.

The next results address the entire sample's ($n = 555$) data usage and insights drawn from streaming services and online platforms, based upon the following question: *Have you ever used data, insights, traffic/streaming numbers, feedback, comments, etc., from any digital platform in your work with Norwegian music?* This question is intentionally broad, as there is little existing research on this topic and any type of online feedback received in a professional context, from "likes" and comments to raw data, metrics, and analyzable statistics, was interesting to me. On this question, 44 percent of the sample answered *yes*, and 35 percent answered *no*, while 21 percent answered *not relevant in my job*, which means that they either do not understand (or reject) data's importance, or they do not find them relevant to the scope of their actual job.

Because the sample was so diverse, it was important to analyze the distribution of data usage across actors' roles. The split into two big groups supplied a total of 79 percent artists and 21 percent intermediaries, and, among these, 37 percent of the artists and 75 percent of the intermediaries identified as data users.

Data Usage and Industry Characteristics

The division into two groups reflected the respondents' *main* affiliations but produced a simplified picture, given the fragmentation and redistribution of roles and responsibilities that characterize the current organization of the music industry (Tschmuck). Answers

addressing core versus secondary assignments in the sample therefore generated important insights. For example, most of the industry actors representing small and medium-sized enterprises offered combinations of services including label support, publishing, promotion, and management, often with only a few employees and under the rubric “music company” rather than “label,” “management,” “booking agency,” and so on.

Another insight was that most of the subsample of artists/musicians ($n = 261$) described themselves as having music-related occupations besides performing and creating music. In this case, 31 percent of this subsample mentioned assignments that involved some form of self-management of their music business, such as having their own record label or taking care of their own booking, promotional, publishing, and management activity. Datafication was distributed among these self-managed artists in interesting ways. Among those who claimed to use data, 37 percent were self-managed artists/musicians; among the non-data users, 27 percent were self-managed; among those who claimed *data are not relevant for my work*, 25 percent were self-managed. In an industry where data and insights from online platforms appear to represent a competitive advantage as well as a readily available resource, fully one-quarter in this subsample of artists managing their own music careers did not take advantage of these possibilities, and one-quarter more claimed data were not relevant for their work.

As to what differentiated users from nonusers of online data, the survey drew attention to certain background variables. There was a significant positive correlation between data usage and the annual earnings in a company. Among those who reported earnings at the company level (not individual music-related income), all respondents with businesses at or above 30 million NOK annual from 2017 used data in their work. Among the respondents representing companies with less earnings, there was more variation in data usage. The result indicates that differences in data usage might be not only the result of the prioritization of datafication but also a question of economic capacity and size.

Respondent age and genre were also significant determinants of data usage. Younger music-industry actors tended to use data more than older ones, unsurprisingly: Data users represented 70 percent of the nineteen- to twenty-nine-year-olds, but only 28 percent of the over-seventy-year-olds. And there were correspondingly more data users among the sample respondents affiliated with hip-hop/rap/urban (85 percent), metal (80 percent), EDM/electronic music (75 percent), and pop (69 percent), as opposed to those affiliated with contemporary (39 percent), classical (47 percent), jazz/improv (50 percent), and traditional/folk (50 percent).

How Datafication Makes a Difference

One initial takeaway from the results is that audience reach was more important to the sample than data access. Nevertheless, within the subsample of data users ($n = 246$), datafication contributed to several tasks and analyses, as presented in [Table 2](#).

The results confirm that datafication contributes extensively to audience expansion, target-group definitions, and market activity. Almost all the respondents picked *more than one choice* regarding why data and feedback were considered important. A closer reading of the data assessments linked to various applications of data would have provided more nuanced results, but this was beyond the scope of this study. In the

Table 2. Purpose of use of datafication.

Answer category	Percent (%)
To expand audiences, build fan base	79
To understand audiences as target group	76
For market activity and releases	67
To measure effect of activities	65
Concert planning in Norway	48
Concert planning outside Norway	42
To explain or convince customers or collaborators	37
To make deals and collaborations	34
In songwriting, music production, artistic design	17
Other things	2
It is not important.	2

Sample Size, $n = 246$.

following, I will instead present some general perspectives regarding the impact of datafication, supported by insights from the interviews, in preparation for my concluding discussion.

The Audience Asset

The interviews made it clear that datafication has its basis in the artist-audience relationship and responds specifically and effectively to the industry imperative of understanding one's audiences, both as *groups* to segment and target and as unique *individuals* replete with modes of engagement, unique forms of agency, and passion in their fandom and listening. More precisely, the audience was described as a powerful asset:

The most important asset out there is a fan base . . . because this is a game all about data.
(Manager 1)

In his interview, the same manager elaborated on the fact that one of the qualities his company offered artists was a commitment to finding an audience and understanding and expanding a fan base. Preparing the ground for datafication has evidently become a priority for music managers like Manager 1, for the sake of both their clients and themselves. When the fan base is a certain size, data can inform strategic actions and allow actors to avoid what Seaver refers to as “cold start problems” (“Captivating” 2) that arise from uninformed predictions, choices, arguments, and deals. In a realm where global competition has increased as a direct result of the dominance of digital platforms, access to data both encouraged and simplified professional planning with the world as a marketplace:

Then in December we saw an opportunity to plan for an arena tour in Australia and New Zealand [that was entirely] motivated by what happened with the [streaming] numbers. We had never thought of that, but suddenly it was all there. (Manager 5)

Evoking Gerlitz and Helmond's notion of the “like economy,” this quote illustrates how the data economy can generate metrics with production implications and performative implications, too. Even within largely esthetic practices such as A&R and studio production, it is all about understanding how the audience is responding to the music, Manager 4 stated, noting the particularly nuanced graphs supplied by certain datafication tools

There are many completely cynical, analytical concepts about what a song is. Then you can compare how a song has made it in the market. That's what's fascinating about streaming—you can see the ways in which audiences listen. (Manager 4)

In general, the audience asset seemed to propel many new industry dynamics via datafication that the respondents considered generally positive, including new means of participating, competing, and positioning oneself in the field.

Datafication, Autonomy, and Control

Among the interviewed managers all had implemented data in their practice. Datafication was described as a comparative advantage in their creation and promotion of music projects and in their development of partners. In relation to marketing initiatives and product innovation, data assisted *lean methods* whereby market interest and audience success could be predicted by a number of social-media and digital means:

Every time you approach the audience online, it helps us in building our knowledge. This facilitates a more holistic approach to working with the artists, because every little activity pulls in the same direction. It helps in increasing the follower base, and it enables us to promote smarter and cheaper. (Manager 1)

These methods of continually reworking products and plans in step with metrics and feedback increase these managers' sense of business autonomy. "I've got lenses through which I can see a lot of things that I couldn't see before," Manager 4 stated with reference to his enhanced ability to monitor responses, streams, sales, royalties, copyrights, meta-data, and general interest in the music via data gleaned from various sources even as he continued to run his own small company.

While the survey results revealed a positive correlation between company profits and its operationalization of data, the interviews added the important qualifier that datafication can spread its economic benefits to actors of all sizes. In fact, it was the managers representing small businesses who particularly stressed the ways in which digital insights mitigated risks and drove the success of financial investments in and binding agreements with other parties. The interviewees' sense of increased autonomy was also tied to their enhanced ability to follow online dissemination patterns closely and to act upon them in relation to an otherwise often unpredictable global network.

From another perspective, this connection between datafication, literacy, and sense of increased business autonomy directly challenges the pervasive *lack of transparency* that has characterized many business models for the Internet so far and has been explored also in relation to music-streaming services (Eriksson et al.; Seaver, "Algorithms"). For more than a decade, Norwegian artists and composers have more or less tacitly agreed to provide content to opaque online systems for the purpose of distribution even as information about splits, rights, deals, and data have been kept close to the platform providers' chests. As a composer pointed out, access to data was a game changer in the field:

Perhaps the most important thing to see is what is missing—that is, what you would otherwise *not* see. (Composer/songwriter/lyricist survey sample)

This observation evokes Hesmondhalgh's definition of democratization, as an increase in access that has influence on the equality in decision-making, part-taking and product-making (101). And, as we will see next, the degree of transparency enabled by datafication also impacts the relationship between music-industry actors and platform providers. I will conclude this analysis by looking at the various sources from which data are gathered.

Data from Where?

Both the survey and the interviews suggested that a platform's potential for data delivery now justifies support for certain priorities and collaborations in the music industry. Manager 2 stated that it is obviously easier to work with and emphasize platforms that can provide good data and reflected on the benefits for the platform providers as well:

Spotify didn't give us any info before, but it seems that they have found it very beneficial to give [those of] us who work with it [in music production and distribution] all this information, because then we manage to *create* more, without them doing a shit more, really. They can just, kind of, *get more*. (Manager 2)

In large parts of the world, Spotify leads music-streaming services in the development of B2B solutions directed toward stakeholders and artists in the music industry. Its efforts to ensure good relations with intermediaries through the provision of detailed metrics seem to have increased the company's use value, with results evident also in the survey.

The subsample of data users ($n = 246$) was asked to specify the services from which they gathered data, but the open framing of the question made the results statistically shaky. Nevertheless, Spotify was the most mentioned service ($n = 122$), with Facebook ($n = 103$), YouTube ($n = 52$), Instagram ($n = 36$), and Google ($n = 27$) following behind. Other music-streaming services rarely came up, including Tidal ($n = 7$), iTunes ($n = 8$),² Soundcloud ($n = 8$), and Bandcamp ($n = 4$), though the question's general terms ("streaming services," "social media platforms," etc.) might have directed respondent attention away from them. Also, distribution companies such as Orchard/Phonofile, inGrooves, indigoboom, and DistroKid represent sources for data retrieval, according to the results, along with analytics platforms such as Chartmetrix, SpotOnTrack, and NextBigSound. A few respondents did mention systems developed directly for their companies, reports from labels, publishers, collective management organizations such as TONO, and statistics from personal web pages.

Discussion: Datafication and Platform Power

One initial takeaway from the survey was that audience reach through online platforms is more important to the respondent sample than is data access. This is based on the fact that the majority stated that online media are key to the pursuit of music exporting, whereas fewer respondents claimed to use data and information from the same platforms.

Based on the data users in the survey sample and on manager interviews, however, datafication is well established in the Norwegian music industry. Online information systems are informing music production and distribution, and there is general optimism regarding what datafication can do for professional music management. Datafication

provides literate and capable data users an improved ability to compete with their Norwegian music and to work with clients in the global music market. Data users also enjoy increased autonomy in controlling their movements and strategic opportunities and avoiding dangers and pitfalls in this rapidly changing landscape.

Of course, we can read these positive reports as understandable and overdue responses to the power imbalance that has long characterized the platform-based practices of the music industry. That is, musicians, composers, and other content owners have always met with fewer opportunities to access, analyze, act on, and create digital insights – or to be digitally literate – compared to the platform providers that distribute this content and monitor responses to it, even though they do not make or own it. The shift toward more data transparency for all is obviously going to be experienced as uplifting, as it appears to provide a fairer *share* of opportunities for all, echoing Gregg, who describes data literacy as a simple necessity for fair opportunities in the future.

Still, while datafication is on the upswing today, comprehensive data *fairness* remains a utopian condition. From the perspective of democratization, the datafication trend is not a guarantee of greater *equality* in either participation in or decision-making about media operations (recall [Hesmondhalgh](#)), though it clearly improves many music-related operations and productions, according to several participants in this study. Ultimately, the giving (back) of information to copyright owners and music creators does much more to strengthen these actors' ongoing platform dependency and relationships with Spotify, Facebook, Google, and the like. These actors are better informed and experience themselves as more autonomous, but they are also more addicted to data and the platforms that supply them. The generally positive take regarding datafication even may indicate that many music-industry stakeholders in Norway have adopted perspectives on datafication that perfectly align with the statements and worldviews of commercial music-streaming services and providers of data-analysis tools. While such sweeping industry optimism is constructive after several years of jarring disruption, more data literacy across the industry tends to legitimize surveillance and data-driven business models of the greatest benefit to the tech companies and platform (and data) owners themselves.

Data Literacy and the Digital Divide

The survey results further indicated that many music-industry actors have yet to take advantage of datafication's possibilities, including the 35 percent of respondents in the complete sample who claimed *not to have used* any data or insights from the Internet and the 21 who found it *not relevant* to their work. Among the subsample of musicians, composers, and music producers, the nonuser share alone was 63 percent. Reasons for this relative disinterest among creatives might include the fact that datafication is most obviously relevant to administrative and strategic tasks in the commercial marketplace. Therefore, it has typically informed the efforts of label workers, managers, publishers, booking and PR agents, and other intermediaries, and the survey confirms that intermediaries are more active with data than the subsample of artists. There also might be aspects of creative music work that do not align with either the needs or the benefits of datafication, perhaps because intermediaries handle datafication-relevant activity for artists, or perhaps because datafication is ideologically fraught – that is, part of the ongoing conflict between art and commerce in the cultural industries.

Nevertheless, artists now work in a digital reality where online platforms own, develop, steer, and monetize several of the most influential control mechanisms for music's successful distribution. Along these lines, new skills are demanded to understand the ways in which music today circulates, and these dynamics can be better understood and accommodated through data.

The high number of non-data-users among artists is therefore worth delving into, particularly because we know that more and more artists are working independently on both their music production and career management (Morris; Tschmuck). The datafication potential of online platforms remains untapped for a large group of key actors, confirming Baym's observation that, while datafication can be powerful, it can also "remain out of reach for artists working on their own or with fewer resources." For some artists, it appears too difficult (or too uninteresting) to develop the skills needed to maintain "audience databases or the critical analytical skills to best interpret the kinds of numbers that digital metrics and data analytics provide" (*Playing* 118).

The survey also suggested other reasons for datafication's poor reception in some corners of the music industry. There were more data users among the subset with the biggest company earnings, indicating that size is still crucial in a market whereby "acquisition is a highly probable end game for this ecosystem, as larger music and tech corporations continually race to understand and own the consumer" (Hu). This result supports previous research suggesting that cost and time dedicated in the transition to digital solutions are biggest for small (theater) companies, whereas big companies can afford the adaptation costs and in turn enjoy the benefits and growth (Towse). The survey also produced the general impression that younger actors were savvier in their use of digital tools and that the biggest share of non-data-users was affiliated with music genres that faced the biggest struggle when it comes to profiting from streaming revenues (Eidsvold-Tøien et al.; Maasø 3).

Overall, these results indicate that the ability to engage in datafication in practice requires a capacity to adapt to it that only comes about when actors access, analyze, evaluate, and create content with data via an optimal interaction with the potential of the media. Beyond this skills-based approach to literacy (Livingstone), the most data-literate actors will be those who are best able to adapt their practices and businesses to the opportunities and currents in the industry, either by obtaining this literacy themselves or by teaming up with (or acquiring) the infrastructures that produce, own, and regulate the data. Data literacy thus depends not only on skill with, and an understanding of, the digital media as such but also on the size, available resources, positioning, and setup of the business in question. This confirms the datafication trend as part of an industry condition under which "the barriers to entry usually are substantial" (Wikström 34). Moreover, the understanding of how these barriers to entry render impossible equal opportunities to achieve a skills-based data literacy is key to understanding datafication's impact on processes of democratization in the music industry. Koltay's claim that online platforms (and the data they provide) are just tools and not determinants of either strategy or action (211) must hence be reconsidered. If limitations in data literacy underpin inequality in decision-making (Hesmondhalgh), the online platforms (and the data they provide) are no longer tools but gatekeepers. The actors and companies that develop skills-based literacy will be better equipped to take part in and make sense of new business logics, to which they will also contribute through their efforts.

This article's approach to exploring datafication as a form of media literacy has begun to flesh out an aspect of the music industry that creates and maintains a digital divide between those who can acquire or hire the needed literacies (concerning data skills and adaptation) and those who cannot. Its analysis has also positioned a relationship between datafication and literacy as a key to understanding processes of industrial development and democratization in the music sphere. Recalling the way in which music recording and record labels used to be the centerpiece of value creation and gatekeeping in the pre-Internet music industry (Tschmuck 28), online music and streaming distribution likewise introduce completely new rules, of which service subscription and audience monitoring have become crucial to value creation. Service providers are the new gatekeepers, datafication a new core activity, and data a prime commodity. Along the way, the data-literate partner achieves more power and better positioning, meaning that *data literacy* is a key resource in and of itself, refined through exchanges of data and provision of analytical expertise to others.

Conclusion: The Artist-Audience Relationship in the Digital Age

The main objective of this article has been to explore the significance of data from digital platforms among professionals working in the current music industry. The study found that the majority in a sample of 555 music-industry actors in Norway considered music-streaming services and online platforms relevant for the purpose of music distribution and audience reach, rather than for the ability to provide them with data and insights from the same platforms. Nevertheless, within the subsample of data users, datafication had become key in several decisions and tasks. The article highlights some ways in which the ability to analyze metrics from online platforms boosts new industry dynamics, including new means of participating, competing, and positioning oneself in the field. The quotes provided in the analysis regarding "the audience asset," and the general celebration of the data-driven ability to produce and promote music more flexibly, insist upon a radical rethinking of music audiences' position in the digital media/music value chain. This change is caused by the platformization of the music industry. New music-industry logics are pushed forward by platform dynamics, and datafication is a key concept.

The era of datafication reemphasizes the artist-audience relationship at the core of the music industry, though with some new dimensions concerning what marks this relationship as valuable. It is, for example, both exploited and cultivated when Spotify (in a commercial) targeted toward artists and stakeholders claims: "We're always trying to connect you with your fans, so say hello to our app, Spotify for Artists." More and more actors are attempting to exploit this artist-audience relationship in the digital age, through access, analysis, evaluation, and creation, with the achievement of strategic and economic success as the goal, and new literacies, currencies, elites, rules, and relationships as the result. It becomes clear that digital data play a significant part in shaping music-industry practices and that datafication informs the music itself, and the culture it lives in.

Yet datafication is not equally available to all. Another important insight in the article is that to engage properly in datafication, one must have the ability and resources to acquire both the actual data and the requisite literacy. The study has provided some insight into datafication's substantial if uneven impact upon various actors' ability to participate, compete, and adapt in the digital music industry. It has also shown that data-literate actors are the winners, and service and data providers are the rulers.

Based on evidence from Norway, an early adopter in the streaming industry, we gain a refined understanding of “the extent to which digitalization has led to democratization, in the sense of a meaningful opening-up of the means of media production to greater democratic control” (Hesmondhalgh 3). According to the analysis and discussion here, it appears that digitalization offers a meaningful opportunity involving *some* data for *some* industry actors. Yet the equally potent commodification of these data has kept their analytical virtues from becoming a common currency throughout the field. The industry’s inherent and structural limitations upon certain stakeholders’ abilities to be data-literate – to access, analyze, act on, and produce using data – instead confirm that the music industry remains an oligopolistic field dominated by a few large firms producing differentiated products under market conditions whose entry barriers are substantial (Wikström 34). The music industry is characterized by what Gregg calls “below the line” labor – that is, complex and multilayered infrastructures encompassing both human and nonhuman agents that inform important decisions and assessments based on digital user data and insights.

Such an environment suggests several further research topics derived from datafication’s role in industry development and democratization, including the barriers within these infrastructures; how data evolve as commodity and are copyrighted; and datafication’s influence on music and culture itself. Also, we need a critical investigation into the role of policymakers and copyright bodies in intervening in and regulating access to datafication and its possibilities. For example, an eye must be kept on the implementation of the European Union Directive on Copyright in the Digital Single Market (*Proposal*), and the consequences and conduct of the “transparency obligation” (Article 19). This article aims to reset the relations between the originators of creative content, including composers, songwriters, and performers, and the platform businesses that exploit that content. Because, in the end, who should own, steer, and monetize information about the actors involved in the relationships at the heart of the music industry if not the artists and audiences themselves? This question remains open, and the final word concerning the platform-based, data-driven music industry remains unspoken. More radically, “we need new democratic media systems for a digital age,” Hesmondhalgh insists (18). As long as the Internet continues to mediate our “representation of knowledge, the framing of entertainment, and the conduct of communication” (Livingstone 9), and thus also the literacy needed in the company of the prospects (and the profits) of digital data, digitalization writ large does not seem to democratize the music industry.

Notes

1. The organizations were CREO (the Association of Art and Culture), NOPA (the Norwegian Society of Composers and Lyricists), NTO (the Association for Norwegian Theaters and Orchestras), FONONO (the Norwegian Record Labels’ Association), Musikkforleggerne (the Norwegian Music Publishers), NEMAA (the Norwegian Entertainment Managers and Agents Association), GramArt (the Recording Artists’ Association), Music Norway (the Norwegian music industry’s export facilitator and promotional organization), Komponistforeningen (the Norwegian Society of Composers), and Norsk Artistforbund (the Norwegian Artist Association).
2. Apple Music for Artists was not yet released at the time when the survey was in the field.

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