

An empirical study of the Music Copyright System in The Netherlands

Abstract The emergence of new technologies such as mp3 and music streaming, and the accompanying digital transformation of the music industry, have led to the shift and change of the entire music industry's value chain. While music is increasingly being consumed through digital channels, the number of empirical studies, particularly in the field of music copyright in the digital music industry, is limited. Every year, rightsholders of musical works, valued 2.5 billion dollars, remain unknown. The objectives of this study are twofold: First to understand and describe the structure and process of the Dutch music copyright system including the most relevant actors within the system and their relations. Second to apply evolutionary economics approach and Values Sensitive Design method within the context of music copyright through positive-empirical perspective. For studies of technological change in existing markets, the evolutionary economics literature provides a coherent and evidence-based foundation. The actors are generally perceived as being different, for example with regard to their access to information, their ability to handle information, their capital and knowledge base (asymmetric information). Also their norms, values and roles can differ. Based on an analysis of documents and held expert interviews, we find that the collection and distribution of the music copyright money is still based on obsolete laws, neoclassical paradigm and legacy IT-system. Finally, we conclude that the rightsholders are heterogenous and have asymmetrical information and negotiating power. The outcomes of this study contribute to create a better understanding of impact of digitization of music copyright industry and empower the stakeholders to proceed from a more informed perspective on redesigning and applying the future music copyright system and pre-digital norms and values amongst actors.

Keywords: • *Music Copyright System* • *Digital Transformation* • *Technological Innovations* • *Evolutionary Economics* •

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1. Introduction

The digitization of the music industry has led, after more than a decade of revenue declines, to revenue growth of the whole music industry. However, it has also resulted in profound reconfigurations of the cultural, social and economic dimensions of music production and consumption (Haynes & Marshall, 2017). The global recorded music market grew by 7.4% in 2020, the sixth consecutive year of growth, according to IFPI¹, the organization that represents the recorded music industry worldwide (IFPI, 2021). Two of the main issues the contemporary music industry is facing in today's digital age are (1) what was played when and where and (2) who should get paid and how much. The rightsholders and the collective management organizations (CMOs²) still face lack of transparency in regard to the use of music. Streaming music services like Apple Music, Deezer and Spotify have been growing in number of users (subscribers) as well as in revenues and profits (Statista, 2022) but have also been the subject of discussion and controversy among rightsholders regarding music copyright fees and sales royalties (Marshall, 2015; Billboard, 2021, Music Business Worldwide, 2022). The emergence of the technologies such as music streaming and the accompanying digitization of the music industry, have led to a shift and change of the entire music industry value chain. These changes have also attracted the attention of policy makers in Europe and more specifically the Netherlands and stimulated scientific research into digitization and music copyright (Belleflamme, 2016; Hadziarapovic et al., 2021). The music industry is considered a forerunner in technological change and lessons may be learned from the music industry for the benefit of the entire creative industry (Lyons, Sun, Collopy, Curran & Ohagan, 2019; Hadziarapovic et al., 2021). However, the focus of the economic copyright analysis has been on broader structures, leaving a need for structured knowledge building on the economic rationales and consequences at a micro level (The Allan Consulting Group, 2003). One of the problems is the existence of "The Black Box" of music copyright moneys: a significant part of the copyright fees are improperly distributed by the CMOs (Bargfredde & Panay's, 2015; Elshan et al, 2021). Every year, the rightsholders of musical works, valued 2.5 billion dollars, remain unknown (Christman, 2019). The unjust distribution of copyright money harms creators, is costly to the economy and has a negative societal impact (Mahoney, 2015; Pech, 2020).

Recent discussions³ on rates paid by Big-Tech companies, such as Spotify, Apple, Amazon, Google and Facebook to CMOs, suggest that accountability and transparency of music use still have to be properly addressed and resolved. While music is increasingly being consumed through digital channels (Williamson & Cloonan, 2012; Wikström, 2013; Samuel, 2014; Ingham, 2015; Statista, 2022) the number of empirical studies, particularly in the field of music copyright, is limited (Schlesinger & Waelde, 2012; Williamson & Cloonan, 2012; Phillips & Street, 2015; Towse, 2019). This is especially the case considering the research on the impact of digitization on the rightsholders of popular music.

With this study, we aim to analyze the structure and process of the music copyright system in the Netherlands on micro and meso level through the evolutionary economics lens. The first objective is to understand and describe the structure and process of the music copyright system. The second objective is to understand and describe the heterogenous and boundedly rational economic actors, including humans, organizations, both public and private, and their actions and interactions including their different (moral) interests and core values. The findings can be used to conceptualize social actors, their bounded rationality and (social) interactions and understand the economy as a complex evolving system.

¹ International Federation of the Phonographic Industry

² Collective management organizations, such as collecting societies, typically represent groups of copyright and related rights owners, such as authors, composers, publishers, writers, photographers, musicians and performers.

³ For example Department for Digital, Culture, Media & Sport, 2017; Music Business Worldwide, 2021; Billboard, 2022

The remainder of this paper is organized as follows. Next, we provide the theoretical grounding of this study: the evolutionary economics theory and the value sensitive design method. Second, we describe the methodology for the empirical part of the study. In section 4 the most important findings are presented followed by conclusions and recommendations for further study in section 5.

2. Theoretical Foundation

The evolutionary economics

The presupposed model of a representative individual agent (i.e., methodological individualism) within neoclassical economics was the 'homo economicus' who was modelled as a perfectly rational calculating machine (Graupe, 2012). The main characteristic of the 'homo economicus' is 'self-interest', where individual moral interest is defined as 'irrational'. The neoclassical model lacks an adequate idea of collective agents or the possibility of moral interests of an organization.

Another assumption within the neoclassical economics is that the whole economic system 'naturally' tends towards a definite equilibrium. As a result, innovations are understood merely as exogenous events or 'shocks' – and thereafter the system again moves towards the equilibrium (Schlaile et al., 2018). The analytical stringency and the mechanical design of three 'classic' economic doctrines: conservative neoclassical; liberal neoclassical and neo-Keynesian approaches may lead to challenges with respect to analysis of dynamic phenomena endogenously caused by the economic system (Hanusch & Pyka, 2007).

To understand and explain innovation, evolutionary or neo-Schumpeterian economics is a more appropriate concept than the mainstream economics (Dopfer, 2016). Evolutionary economics has its origins in the paradigm of natural sciences where the universe is not a machine, but radically evolutionary and processual (Plotkin, 1987). Within this new economic paradigm, an individual agent is no longer an abstracted, perfectly rational calculating machine, but a concrete human being, which is only boundedly rational (makes mistakes) and has different interests, including moral interests. Next to individual agents, organizations and innovation networks are defined as collective agents and form an essential part of evolutionary economics. They cooperate, in order to create a certain stability of structure, and are therefore able to act collectively. The fact that the actors (agents) of the public sector are considered as an endogenous part of the innovation system and can take an active role in the innovations, is another advantage of evolutionary economics over the neoclassical mainstream economics (Mazzucato, 2016).

Next to that, the actors are generally perceived as being different, for example with regard to their access to information, their ability to handle information, their capital and knowledge base (asymmetric information) (Nelson & Winter, 1982; Lipsey et al., 2005) and also their (moral) interests, norms, values and roles. These differences also apply to institutions designed to remain stable over time (Lundvall & Archibugi, 2001), but as the speed of technological change varies and is not always predictable, formal and informal institutions, technology and markets are 'out of sync'. In evolutionary economics the economic system, as a whole, is in disequilibrium and is ever evolving. The innovations are conceptualized as endogenous, where they belong to the nature of actuality, society and economic system. Finally, the economic system is driven by the actions and interactions of heterogeneous and boundedly rational economic actors and by the emergence of innovations from (inter)actions of micro entities (humans) (Schlaile et al., 2018). The evolutionary economic theory emphasizes innovation and entrepreneurship where technological innovations cause qualitative transformations of economies. The theory deals with dynamic processes of these transformations. The contemporary evolutionary and neo-Schumpeterian economics can be applied to study innovation and learning behavior at the micro level, industry dynamics on the meso-level and innovation driven growth and competitiveness on the macro-level of the economy (Atkinson, 2012; Handke, 2012).

Technological change causes the spread of new products and production processes: the 'Disruptive Innovation'. That is an innovation that creates a new market and value network and thereby ultimately disrupts existing markets and value network(s) (Ab Rahman et al, 2017). The products or services, perceived as disruptive innovations, tend to skip stages in the traditional product design and development process in order to quickly gain market traction and competitive advantage (Reyes-Mercado & Rajagopal, 2017). Technical innovations lead to the development of new products and services in the economic field, but also to the development of new policies and legal rules (Schumpeter, 1952). According to the evolutionary economics theory, it always takes 'a while' before people realize, or have learned, how to use the potential of new technology to the fullest (Eckardt, 2021). The economic system consists of two main areas, namely Techno-Economic on the one hand and Socio-Institutional on the other. The instability of the system (market) has a Techno-Economic origin and a Socio-Institutional solution (Perez, 2004). There are so-called "inertia" forces through which the Social-Institutional framework adapts slowly to new circumstances, while the Techno-Economic system 'foretell' the existing framework of legislation, regulations and stakeholders through technological radical inventions and incremental innovations: (different) roles, norms, and values (Heinrich et al, 2013). Every technological revolution creates a mismatch between Techno-Economic and Socio-Institutional parts of the system, and it can take a long time (sometimes decades) to restore the coherence of the total system. Once the match is reached it leads to the full unfolding of the new potential (Perez, 2004). Within this study, technological change is not defined as a technical phenomenon but as a complex social process involving interactions between technical, economic, social and institutional factors. According to Perez (2004) any technological revolution must deal with social institutions based on the requirements of the previous Techno-Economic paradigm that are outdated and counterproductive. Only when the diffusion of the new paradigm has reached a certain critical mass do the obstacles - and beneficial unfolding of the new potential - become fully visible (Perez, 2004).

As outlined in the first part of this paragraph, the essential assumptions of evolutionary economics are that the agents are heterogenous, that the economic system is evolving and in disequilibrium. Also, that the economic system is driven by the actions and interactions of these heterogeneous and boundedly rational economic actors and by the emergence of innovations from (inter)actions of micro entities (humans). Innovations lead to the change of rules and regulations (institutions), but institutional change can also be influenced by the changes in core values and norms of the agents (humans) involved. Understanding and identifying those core values, both inductively from expert interviews and deductively from existing theories, would contribute to the forming of a new Techno-Economic paradigm. This understanding will eventually contribute to understanding how this mismatch between Techno-Economic and Socio-Institutional parts of the system can be reduced and restored. The essential part of this approach is to include social actors, their bounded rationality and (social) interactions through a structured, inclusive, and transparent research process (Selbst et al., 2019). In evolutionary economics there is still no consensus on how to conceptualize social actors, their bounded rationality and (social) interactions. A full understanding of the economy as a complex evolving system requires accounting for interdependencies among various groups and entities. Understanding the heterogenous and boundedly rational economic actors, including humans, organizations, both public and private, and their actions and interactions, including their different (moral) interests and core values, has rarely been employed in modelling economic phenomena (Safarzyńska, 2010). The abovementioned conceptualization would enhance our understanding of the emergence and evolution of human organizations and institutions and contribute to the further development of evolutionary economic theory.

Value Sensitive Design

Value sensitive design (VSD) is an established method for integrating values into technical design and is a research area that focuses on embedding values in technologies (Friedman et al., 2013). Within VSD, the definition of value is *‘what is important to people in their lives, with a focus on ethics and morality’* (Friedman & Hendry, 2019). The purpose of VSD is twofold: on the one hand to support critical analysis of existing technologies with regard to values and on the other hand to provide a concrete methodology to embed the values in new technologies (Simon, 2016). For critical analysis, VSD can be used to assess whether desired values, e.g., justice, transparency and fairness, have been achieved through technology design but also to identify lack of values by dismantling biases within the technology (Friedman & Nissenbaum, 1997) that affect certain user groups or other direct or indirect stakeholders affected by a specific technology, such as in the contemporary music industry (Barr, 2013; Bargfrede & Panay, 2015; Department for Digital, Culture, Media & Sport, 2017; Music Business Worldwide, 2018; Handke, 2020). VSD thus serves as an analytical tool to unlock valuation processes within technology design and development, which are commonly black boxed or neglected. The second purpose of VSD, offering a methodology, consists of an iterative integration of three perspectives: conceptual, empirical, and technical research as outlined in figure 1 (Friedman et al. 2006; Flanagan et al. 2008; Friedman & Hendry, 2019).

Value Sensitive Design Framework

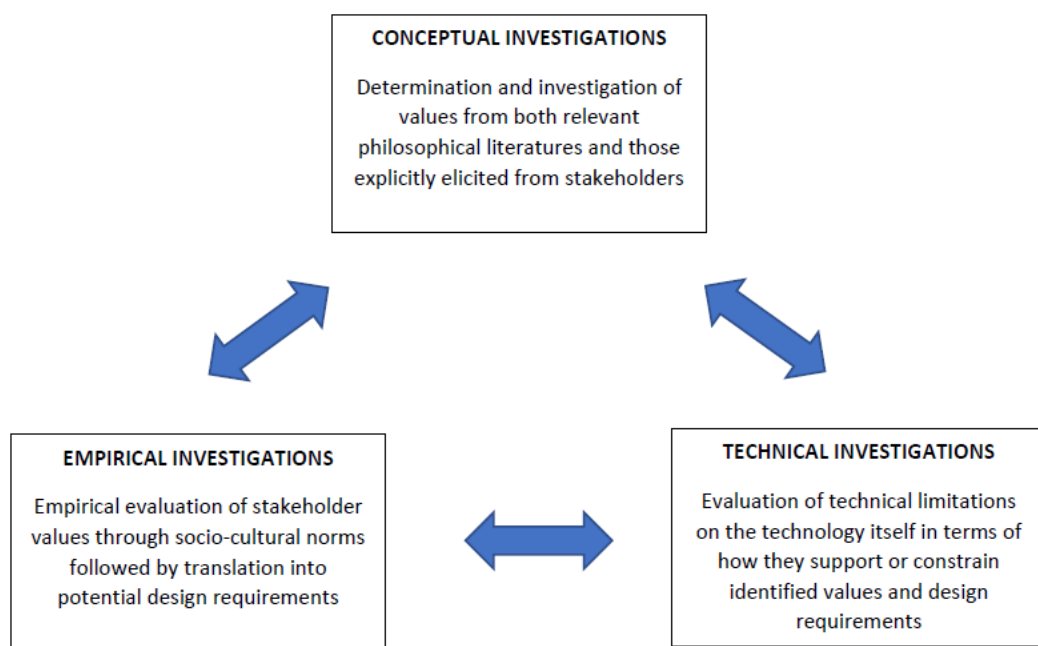


Figure 1: Value Sensitive Design Framework (Umbrello, 2020)

The conceptual investigation involves the identification of relevant values and direct and indirect stakeholders. Relevant questions at this stage concern the characteristics of the different stakeholders, the way they are influenced by the use of technologies, the relative importance of different values and the trade-offs between conflicting values (Simon, 2016). Within the empirical investigation, quantitative and/or qualitative research methods can be used to analyze how people create and

prioritize different values and what role these play in behavior (the main focus of this study, as a part of a longer and broader research with the overall objective to provide recommendations needed to redesign the structure and process of the music copyright system). The technical investigation as described by Friedman et al. (2006) consists of two parts. The first part of the technical investigation focuses on the role values play in existing technologies and is similar in principle to previous analytical approaches, only with a pronounced focus on the technology itself. The second involves proactively designing systems to support values identified in the conceptual and empirical research phases (Friedman & Hendry, 2019).

3. Methodology

Considering the complex nature of the economics of copyright and the evolutionary economics, together with the Value Sensitive Design method, outlined in section two, we find that qualitative research fit well with this study. Qualitative research is grounded in an essentially constructivist philosophical position and its intent is to examine a social situation or interaction by allowing, us, the researchers, to enter the world of others and attempt to achieve a holistic understanding (Bogdan & Biklen, 2007; Locke et al., 2013; Maxwell, 2012; Merriam et al., 2015). The objective of this study is to achieve a holistic and better understanding of the music copyright system with the focus on conceptual and empirical steps as discussed above. We believe that a better understanding of the digital transformation of the music copyright system would allow the stakeholders to redesign of the structure and process of the music copyright system.

This research was conducted in two parts during the period from beginning of September 2019 to end of April 2022. The table below is an overview of methods used and the objectives of every method. The methods are described in detail in the following section.

Method	Aim	When
<i>Literature review</i>	Deeper understanding of: - Music Copyright Industry; - Legal framework of copyright law; - The economics of copyrights; - The system of music copyright (structure and process); - The key stakeholders within this system; - Neoclassic economic theory; - Evolutionary economics theory and its methodology; - Value Sensitive Design; - Digital transformation;	September 2019 to September 2022
<i>Document Analysis</i>	Understand and describe the structure and process of the music copyright system in The Netherlands;	September 2020 to September 2021
<i>17 Interviews with experts (part 1)</i>	Understand the roles, norms, values and access to information for different stakeholders within the music copyright system to enhance findings from Literature review and document analysis;	November 2020 and March 2021
<i>6 Interviews with experts (part 2)</i>	Search for additional and in-depth information with focus on perception and rationale of the music copyright system in The Netherlands and on empirical evaluation of stakeholder's core values and the mutual relations between different rightsholders of music copyright (heterogenous agents);	November 2021 and March 2022

Table 1: Overview of the research methods

Literature review

In order to establish a theory and the context for this study, a narrative review of existing literature is conducted during a period of three years. 'Snowballing' is used to identify important articles relevant for the topic (Greenhalgh et al., 2005). The topics were used as search words and phrases for Google

scholar, HU Data bank, Gartner.com, Sage Journals, Taylor & Francis Online, Jstor, Serci.org and more. Also, music conferences like ADE Amsterdam, EuroSonicNoorderslag in Groningen and Midem in Cannes were visited in order to gain the most recent insights and learn from experts working in the field of music industry and music copyright during keynotes and also by attending the discussion panels and watch published conference movies of the websites of the congress on Vimeo or YouTube (published afterwards). The most relevant findings were noted on paper and on memo-cards.

Document analysis

In order to understand and describe the structure and process of the music copyright system in The Netherlands, a document analysis was conducted. The associated activities were to name, collect, categorize, and systematically analyze the relevant and available documents regarding the enforcement of copyright in The Netherlands. The collected documents were categorized in public and non-public documents. This concerns at least the following documents: "income statements" from CMOs to rightsholders; annual reports of CMOs (all public); the reports of the Supervisory Board for Collective Management Organizations for Copyright and Related Rights and available agreements (contracts) between publishers and composers and lyricists (non-public⁴). Also, copyright law documents were considered. Although the legal framework of copyright is outside the scope of this research, it can still provide important insights in the rationale and justification of copyright law from the legal perspective. The aim of the document analysis was to gain a deeper understanding of the structure and process of the music copyright system on micro (rightsholders) and meso (industry) level.

Semi-structured interviews

Eighteen in-depth semi-structured interviews were conducted with experts within the Dutch music copyright industry. These interviews took place between November 2020 and March 2021 and were transcribed, coded and analyzed from March 2021 to October 2021. This was subsequently followed by the next six semi-structured in-depth interviews which took place between November 2021 and March 2022. These six interviews enabled us to search for additional and in-depth information about perception and rationale of the structure and process of the music copyright system in The Netherlands and on empirical evaluation of stakeholders core values.

The expert interviews in this research provided us with the opportunity to explicitly elicit detailed descriptions and enabled us to search for additional information directly from the stakeholders. A major benefit of individual in-depth interviews is that it also offers the potential to capture a person's perspective of an event or experience (Marshall & Rossman, 2014). In the case of this research, our reason for choosing this method was that it is a good way to generate data through interaction with people and capture the meaning of their experience in their own words (Bloomberg & Volpe, 2019).

Sample selection

The overview of participants, their roles and experience can be found in Appendix 1. Also the dates and durations of the interviews are listed. To select the sample for this study, a purposeful sampling procedure was used. Since one of the researchers has been working in the Dutch music industry for over two decades, we started within our own network of possible participants for the first part of the study. Also, a snowball sampling strategy was employed (Patton, 2014) where at the end of each interview the participants were asked if they could recommend a next potential participant. The participants were selected using the following selection criteria: 1) composers and lyricists have had at least five songs released in the last 4 years, 2) they are registered members of Buma/Stemra (Dutch

⁴ obtained from the interviewed experts but anonymized

CMO) and 3) they either have their own publishing company or are represented by an official registered publisher in The Netherlands or elsewhere. Criteria in selecting music publishers are that 1) they have a relevant repertoire of professional authors they represent, 2) they are professionally active in the copyright music industry for at least ten years. Finally, regarding CMO, the individual participants should have a management position within this organization with at least 5 years of relevant working experience. The delimiting time frames of 4, 10 and 5 years were decided on to insure adequate working experience in the music industry. The research sample for the first part of the research consists of 18 individuals including: two composer/lyricist with a broad repertoire of internationally successful songs who now are owners of music publishing companies; four composers/lyricists represented by an external music publisher; one formal member of the Council of Rights Owners of Buma/Stemra; the Dutch CEO of one of the biggest Global Independent Music Publishing companies (wishes to stay anonymous); four music publishers who either work for a publishing company or are the owner of a publishing company; one book publisher; a Buma/Stemra manager responsible for Business Development and a lobbyist of Buma/Stemra who at the time of the interview operated on national and EU-level; a CEO of a Digital Service Provider company and finally two music rights lawyers representing many Dutch and International rightsholders (creators and publishers);

For the second part of the study, conducted in December 2021 and January 2022 we selected four participants from the first part of the study and added two extra members for longer, in-depth, and semi-structured interviews with focus on rationale and perception of the enforcement of the music copyright system in The Netherlands. The four individuals were selected based on the first 18 interviews: they had the most experience (years working in the industry), knowledge (based on their experiences), success with their work (in terms of releases, revenue and income) and represent different actors in the music copyright system, namely composers/lyricists, publishers, copyright lawyers and CMOs. The two “new” participants were selected based on their long experience in the music copyright industry: one in publishing, working for the biggest independent publisher in The Netherlands and the other as a director of a national radio station in The Netherlands, with over more than 30 years of relevant experience in the Dutch music industry.

Process of the interviews

Regarding the process of the interviews, we sent emails and/or LinkedIn direct messages to prospective participants describing the purpose of the research with a request for a convenient date and time for an online interview. All eighteen of the interviews of the first part of the study were audio recorded and afterwards manually transcribed verbatim and with full permission of the participants. The interviews lasted between 45 minutes to 90 minutes and covered different themes depending on the role and interests of the participants (See also Appendix 3 for codes and themes). The second 6 interviews were audio recorded in a ‘Podcast-setting’ (with professional recording equipment for the purpose of good audio quality) and lasted between 60 to 150 minutes each. The audio files were then coded and edited to 30 to 40 minute podcasts. Those 6 podcast-episodes are published by the Utrecht University of Applied Sciences and are openly available for public in English language (Hadžiarapović, 2022). We listened to the interviews 4 to 6 times per interview to find the most relevant statements and distinguish them from less relevant or previously mentioned matters. During these listening sessions, the most important findings were noted in memos and different themes discussed were defined. Also, time codes per theme were noted during these sessions. The data analysis and data collection activities were done simultaneously to avoid the risk of repetitious, unfocused, and overwhelming data (Merriam et al., 2015). The transcripts of the interviews were first coded using open coding for identifying and naming the data and developing major categories of information (Bloomberg & Volpe, 2019). In the next phase the categories were connected, and we searched for

relationships among them (Birks & Mills, 2015; Corbin & Strauss, 2014; Holton & Walsh, 2016), where we compared threads and patterns within categories. In the last phase of the synthesizing process, we situated the current work to prior research and compared it with issues found in the broader literature (Bloomberg & Volpe, 2019). Credibility, dependability, and confirmability of the research are ensured by triangulating sources (Patton, 2015) and member checks (Bloomberg & Volpe, 2019); transferability by purposeful sampling and thick descriptions (Gay et al., 2011; Merriam et al., 2015; Patton, 2015). For this process Atlas.ti software version 9.0 is used, and the audio recordings were edited using Pro Tools and Adobe Audition.

4. Findings

The findings described below provide an overview of the most relevant findings from the study. In the paragraph 5 there is an overview the most important conclusions of the study.

4.1 The Structure and Process of The Dutch Music Copyright System

Based on document analysis the system of music copyright in the Netherlands is modeled and mapped (figure 2), including the stakeholders, their mandates, and their mutual relationships as formally described⁵.

⁵ Some parts of the findings, based on document analysis, literature review and 6 interviews were published in the Bled Conference paper (Hadziarapovic et al., 2021). For the sake of context those are briefly described in this section but also supplemented with the new insights and quotes obtained from the rest of the 18 interviews and 6 in-depth interviews conducted in December 2021 and January 2022.

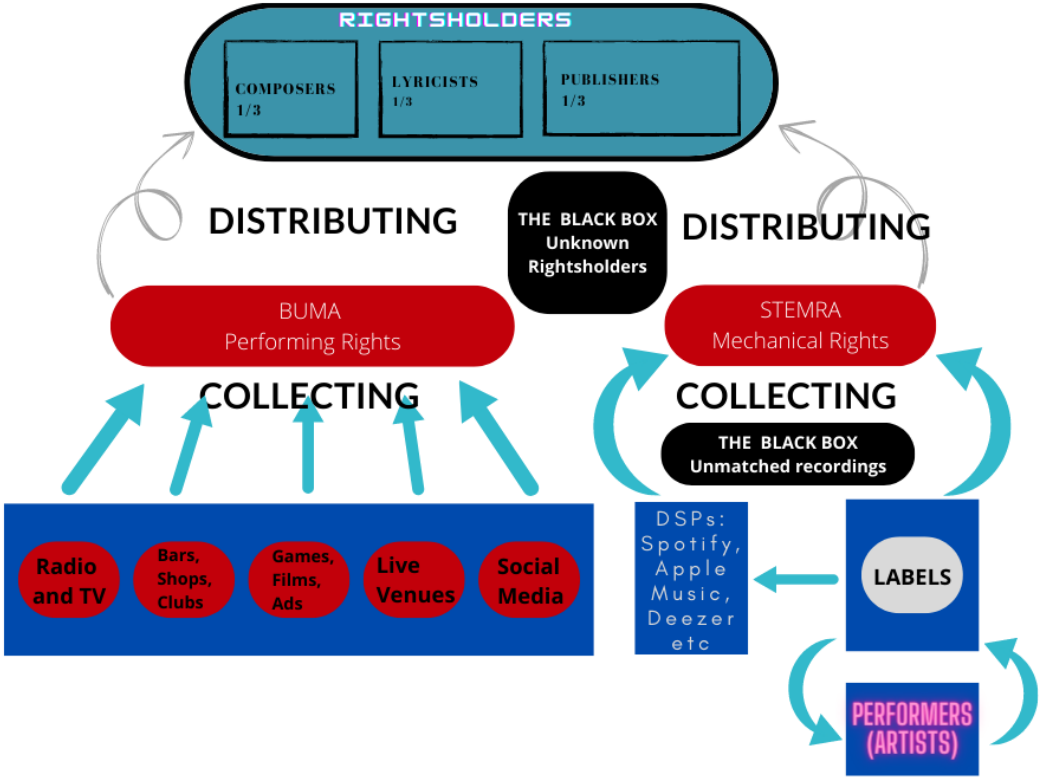


Figure 2: The structure of the Music Copyright

The music copyright system has rightsholders and users of music. The ‘users of music’ pay for the use of music through annual or monthly contribution to the CMOs. The Dutch CMO, Buma/Stemra, is appointed by the Dutch Government to collect money from users of music and distributes the collected money to the rightsholders. Buma/Stemra is also responsible for, and given the mandate to, negotiate the tariffs for use of music with different parties, for examples media, streaming services, live venues, bars and shops etcetera. The rightsholders in the Netherlands are the composers, lyricists, and the music publishers. The website of Buma/Stemra makes a clear distinction between music users and rightsholders considering the needed documents and forms. Also, it contains a button that either music users or rightsholders can click on for information or needed documents. The copyright is divided equally by those three rightsholders, each owns 33,33% of the copyright. In case of a composition without lyrics, the split is 50%-50% between the composer and the publisher. The publishers are, depending on the signed agreements with the creators of music, responsible for the exploitation and administration of created musical works. There are different kinds of agreements between publishers and creators and the publishing share of 33,33% can (partly) flow back to the creators, depending on the type of contract (see table 2 below).

Contract type	Description
<i>Song / Title Agreement</i>	This type of music publishing contract is an agreement between the writer and the music publisher in which the writer grants certain rights to a publisher for one or more songs. In a single song publishing contract, the writer is sometimes paid a one-time recoupable advance.
<i>Exclusive Songwriter Agreement ("ESWA")</i>	Under the ESWA or "staff writer" contract, the songwriter generally grants all of the publishers share of the income to the music publisher. The writers' services are exclusive to the music publishers for a specified period of time. Thus, any compositions written within that period belong to the music publisher. These publishing contracts are usually offered to writers with some degree of commercial success.
<i>Co-publishing Agreement ("Co-pub")</i>	Under this deal, the songwriter and the music publisher are "co-owners" of the copyrights in the musical compositions. The writer becomes the "co-publisher" (i.e. co-owner) with the music publisher, based on an agreed split of the royalties (or kickback).
<i>Administration Agreement ("Admin / Sub Publishing")</i>	Under this music publishing contract, the music publisher simply administers the copyrights for another publisher/copyright owner ⁶ . Under this coveted arrangement, ownership of the copyright is usually not transferred to the administrator. Instead, the music publisher usually gets 10-20% of the gross royalties received from administering the songs for a certain period of time and for a certain territory.

Table 2: Different contract types between creators and Publishers

Also, so called 'sub-publishing' contracts (deals) may exist amongst publishers: a sub-publisher acts on behalf of the original publisher of a musical work in a specific country or territory and earns a percentage of the money earned during the period of contract. Their tasks are to collect royalties, monitor copyrights, exploit usage for licensing, and in some cases promote the music they signed for to represent. When a musical work is created, the role of the creators is to register their work with the CMO, in order to receive the revenue, they are entitled to for the use of their work. Buma/Stemra is responsible for collection and distribution of performance rights and of mechanical reproduction rights. The latter is only relevant when a song or a composition is recorded by performers or artists and released (distributed) by, for example, a record label and reproduced on content carriers or digitally on for example Spotify or comparable online services. Registering a composition or lyrics for the rightsholders is not experienced as convenient. As one of the interviewees stated:

"Imagine you write a song, you don't have a recording and someone else is performing it. What then happens is that you have to trust that there is always someone sitting there who writes down the title and the authors neatly and that that is copied well at Buma/Stemra, so that will be a bit of manual work. Nowadays there is also a lot of automation in it, but there is more margin of error in it." [Participant 1]

There is also a stigma that the composers and lyricist are not very good at completing administrative tasks, like participant 7 stated:

"It's not all super difficult either, but there is certainly that it is complicated as a maker to keep track of it all to register on time, which is just inherent to creatives that it is not their strongest game." [Participant 7]

⁶ Publishers can only register their part of the copyright with the CMO, which has a maximum of 33,33% and cannot legally register the other two parts (composition and lyrics).

The system of music copyright is perceived as complex by all participants. The Copyright Law of The Netherlands (Overheid, 2022) consists of 168 articles and many exemptions to the articles. For some parts it is depending on the EU Intellectual Property Laws and regulations, which makes it even more complex and hard to get through, especially for stakeholders without legal background. Statutes and regulations, published on the website of the Dutch CMO Buma/Stemra contain 21 documents. Furthermore, there are at least 20 documents containing relevant information for the rightsholders, excluding annual reports and publications. Also, the system of collecting and distributing money by the CMO is experienced as complicated and prone to many mistakes. Almost all of the participants agreed on this and one in particular has worded it comprehensively:

“They (Buma/Stemra) work with their own systems that have to connect properly in one way or another. The radio or television or Spotify or Deezer also work with systems, administrative systems that are set up to distribute their profits, er, pay them and distribute their profits as well as to transfer the money to the rightful claimant as well. pay well. It all has to match. If that can't come together like a nice glove because that technique isn't well matched, uh, then that's possible.” [Participant 8]

Another important part is the international exchange of meta data and collected money. The copyrights of the members of Buma/Stemra are represented abroad by the 148 sister organizations with which Buma/Stemra has concluded a reciprocity agreement (Buma/Stemra, 2022). As stated on the website of Buma/Stemra:

“Since the sister organizations are autonomous organizations that act on the basis of local legislation, statutes and regulations, there may be some discrepancy between the manner of representation by the sister organization and by Buma/Stemra. The economic, financial and political situation in the country concerned can also play a role. Amounts and rates in the territory of the sister organizations may deviate from the Dutch standard. There is also the possibility that there is no representation of performance rights and/or mechanical rights for a country.”

As stated above, the Dutch publishers often cooperate with local sub-publishers. This is another layer added to the value chain which complicates the transparent collection and distribution of copyright money even further. The board member of Buma/Stemra and a composer himself stated that:

“Because the music used in Germany is actually collected by the German... by the GEMA – the German equivalent of Buma Stemra – that is then paid out to the, uh, German publisher there who keeps a part and then they return the remaining part to the Dutch publisher, who keeps a part in and that way there is just less left for you, euh yes, for yourself as an author.” [Participant 4]

4.2 Stakeholders and their relationships

As discussed above, and visually presented in the figure 4.1, the most important stakeholders within the system of music copyright in The Netherlands are users of music, CMOs and rightsholders. All participants indicated that the mutual relationships amongst creators, creators and publishers (rightsholders) and rightsholders and CMOs are affected by digitization of the music and that these relationships are complex and dynamic. This results in different sort of agreements between creators and publishers. According to the participant who now owns his own publishing company:

“I worked with a publisher. I worked with them from 2013 to 2018. I felt that they were not doing enough and that they were not active enough with my music to justify getting such a share in my music.” [Participant 5]

There is also an information asymmetry when comparing creators (composers and lyricists) and publishers. Lobbyist of Buma Stemra, working with Dutch and EU parliament on the latest EU copyright legislation in 2018 and 2019, stated:

“In the relationship between publishers and creators you have this phenomenon that a good creator maybe once a year makes a deal with uh, with someone uh, uh, or maybe once in a lifetime or once every five years and a publisher makes twenty appointments a day, of course, so who has more experience in those publishing deals, well I can tell you that.” [Participant 6]

And there is also a regulation that creators and (their) publishers can only access their part of the Buma/Stemra portal:

“My publisher arranges that, you always hear, but a publisher cannot look at your writer account at Buma Stemra. They can't get in there at all, they can only see the publisher share.” [Participant 7]

Based on the interviews and analyses of several publishing contracts, provided by some of the participants, we found that there are four possible contracts (table 4.1) between the creators of music (composers and lyricists) and publishers.

The relationships between the creators themselves are not necessarily aligned. Different types of composers have different interests and different sources of income. During the meetings of Buma/Stemra board members and members (all rightsholders) there is often conflict of interest between different rightsholders:

“So, it remains a difference... multimedia composers and pop music composers are the largest party of the composers within Buma Stemra and they do not always agree with each other.” [Participant 4]

4.3 Values of the stakeholders

According to the literature discussed, the lack of empirical evidence has always been a challenge regarding argumentation and definition of the values of the rightsholders within the music copyright system. The interviews held with the participants in the two series of interviews led to the conclusion that these 'assumptions' contain a certain amount of truth. In the perception of most of the participants, during the two rounds of interviews, there was no proactive involvement of direct and indirect stakeholders⁷ affected by the technology throughout the design process. The 'big players', as mentioned below, invent and innovate technology, but for other purposes than for the wellbeing of the rightsholders:

“All those, the Kobalts and the Sonys and the like have all made beautiful apps, eh, under the heading of transparency because then you can see well, look is just euh, you have been streamed so often and this is your income. Sometimes you can request an extra advance quickly and there are all of them, it all looks flashy and good, but if you don't know whether it is correct at the source, then that transparency and honesty are of no use to you because who tells me that it is, is fair...” [Participant 9]

On the other hand, the rightsholders are not aligned with each other and in the current system: the actors (stakeholders) have different interests, different access to information and prioritize different norms and values and are thus heterogenous with bounded rationality:

“The second thing that creates in-transparency is the fact that um, we are an organization of our members, that there are far too many people on our boards who have a direct interest in the distribution of the money.” [Participant 6]

Also, in the perception of some of the participants, the information asymmetry has been abused by the actors who have access to the information and have access to somewhat better IT systems.

⁷ On the side of the rightsholders and CMOs

“There are plenty of examples of music, uh, authors who have lost a lot of money because their ignorance has been abused” [Participant 4]

Almost all interviewed participants agree that no one deliberately abuses the system, but that everyone tries to promote their own interests from the perception of their own roles, values, preferences and norms.

“Most people don't abuse the system most people just have rights, they just want to take care of it – publishers too – they just want to make sure you get your money but there's a lot of stupid tendency in that music industry with crazy contracts, with crazy mirrors and beads.” [Participant 1]

4.4 The Black Box

All participants acknowledged the effects of digitization on music copyright, complexity of the current system and existence of ‘old’ legacy software used for the enforcement of copyright in The Netherlands. During the times that music publishing was only based on exploitation of sheet music, the implementation of the system was uncluttered and relatively controllable. The contemporary and digitized music industry of today has become much more complex and intricate and there are now many more stakeholders in the music “ecosystem” than ever before.

“Enforcement and legislation lag behind technological developments, so once a law has been passed, after three years or so, the technology has already been developed in such a way that you can actually start working on a new law right away.” [Participant 5]

It has become almost impossible for the CMOs to collect and process all of the available data in order to collect and distribute the copyright money in the fairest and just way. According to an interviewee who is both a composer and publisher:

“Buma / Stemra has to deal with hundreds of thousands of parties. That can often go wrong so in itself that is inherent to the system and there is nothing wrong with that. If your song is played on many thousands of TV and internet channels you cannot expect that everything will go smoothly. For authors, if you want to get what you are entitled to, you have to be on top of it.” [Participant 1]

And according to the interviewed manager of the Dutch CMO Buma/Stemra, there are more problems:

“We are still working with what is then called a monolithic system, so one large system that contains everything and that will at some point have reached the end of its life. Then you have to look for something new and a project has now started, which will of course take a few years before it is finished and rolled out, a new IT environment is developed and rolled out.” [Participant 2]

The Netherlands is a relatively ‘small player’ compared to countries like Japan, USA, Germany, UK and France. Collecting and analyzing music using data from these countries (and many others) is almost impossible and very complicated.

“Of course, we live in a digital age but a lot of that software is written by people so there are a lot of mistakes in it. That's just year after year, you know how it works, uh, IT is terribly difficult to get right year after year, patch after patch. Such a software system does not always improve...” [Participant 1]

And according to the interviewed international publisher:

“The fact is that you do not know what happens to your copyright and that the person who uses your copyright is actually not in breach at all.” [Participant 3]

Another phenomenon of the music copyright industry has been discussed frequently in the recent global media: the black box of copyright (figure 4.1) (Bargfredde & Panay, 2015; Music Business Worldwide, 2018). All the participants indicated the effects of digitization on existence of such black box of copyright and expressed the need for an appropriate solution. The black box is an ‘umbrella’

term used with different meanings. The most used definition is that these are unclaimed royalties collected by the CMOs. Basically, CMOs have collected the money but do not know who to give the collected money to. The reasons for the existence of such black boxes vary; from makers and publishers not registering their work, to labels releasing and reproducing the songs digitally without reporting the rightful owners and to unmatched databases or music users not correctly reporting the use of music (Music Business Worldwide, 2018). Also, digital data exchange between CMOs in different countries is a major reason for their existence. In the words of the board member of Buma/Stemra:

“The black box within the copyright world means the following: money comes in and it is not clear how it is distributed. The black box is actually more of a collective name for various problems within the music copyright industry.” [Participant 4]

“That black box is of course glued to everything they don't see...” [Participant 2]

“Utopia is that all data is correct and that there is greater transparency and that you can simply have a conversation about quantity in the calculation models themselves, because the rest is correct, but the rest is often incorrect.” [Participant 8]

5. Discussion, Conclusions and Recommendations

With this study, we aimed to analyze the structure and process of the music copyright system in the Netherlands on micro and meso level through the evolutionary economics lens. The first objective was to understand and describe the structure and process of the music copyright system. The second objective was to understand and describe the heterogenous and boundedly rational economic actors, including humans, organizations, both public and private, and their actions and interactions including their different (moral) interests and core values. The four enumerated conclusions are described in more detail for each conclusion in the text below.

1. The participants experience the structure and the process of the music copyright system in The Netherlands as complex and the collection and distribution of music copyright revenues as skewed;
2. Understanding and mapping the system has led to defining key stakeholders and mapping out their mutual relationships. Among the findings are different types of contracts between creators and publishers, which indicate that they are heterogenous and have different interests, but also that they prioritize norms and values differently; there are ‘value tensions’ between those stakeholders. All participants indicated that the digital transformation of the music industry affected the mutual relationships amongst creators, creators and publishers (rightsholders) and CMOs. The relationships are now more complex and dynamic;
3. Transparency, fairness, and justice are defined as most important values in the perception of rightsholders but also in the EU philosophy and existing literature. The inaccurate meta data and lack of transparency can lead to more profit for bigger (major) publishers and disadvantage smaller players in the long tail, which in turn undermines these three values;
4. According to the participants in the interviews, the rationale of the current music copyright system is based on neoclassical economic paradigm, legislation and lagging technology of the CMOs. All participants indicated that digitization of the music industry, combined with institutional inertia, resulted in lack of transparency, lack of fairness and injustice of the music copyright system in The Netherlands. A specific example is the existence of black boxes in the copyright processes with no prospect of an appropriate solution at this time.

5.1 The music copyright system in The Netherlands

The first major finding of this research is that the design of the copyright enforcement system is well documented, transparent, and institutionalized in the Dutch and European legal framework. The mandates and responsibilities are well defined and experienced as such by all the participants. However, there is a difference between the design of the system 'on paper' and practical application of the system. The system of music copyright is perceived as complex by all participants of the research, as outlined in section 4.1. A conclusion to be drawn from this finding is that the designed system and the legal framework are complex. The inertia of the institutions within the system on one side and the fast-growing technology on the other, have led to an 'out of sync' market with asymmetric access to information, and value-tension between different stakeholders. The digitization of the music industry started a tsunami of Big Data. The key actors of the copyright enforcement, the CMOs, with the mandate to collect and distribute money from user to the rightsholders are not ready to cope with the fast-changing environment. They are also not equipped with the right software tools and their bargaining power towards the 'Big Tech' companies and the new major users of music, like Spotify, has diminished due to this asymmetrical information. The fact that, when it comes down to international exchange of meta data, the Dutch CMO must deal with 148 sister organizations, with their own laws, regulations and ICT systems, is a clear example of complicated bureaucracy which makes it very difficult to realize data exchange ICT. A further conclusion that can be drawn is that, although the justification of copyright in a broader sense is well-argued by scholars and policy makers, there is also a social and economic pressure for change that leads to the need for a new institutional framework with new norms, values, and roles.

5.2 Stakeholders and their relationships

The second major finding is that all the participants have emphasized the existence of rather complex relationships between creators (composers and lyricist) and their publishers. For the legislation, the rightsholders, creators and publishers, are homogeneous and enjoy the same rights. However, these two groups have different interests and their views on the distribution of income differ: "Artist versus the businessmen". In practice, these different views have led to the emergence of different forms of collaborations and different types of contracts between the two. One example is that on one hit song, there are sometimes more than 10 creators and more than 10 (sub)publishers involved, thus many contracts and splits between all parties involved exist. The complex and complicated agreements and contracts, especially when a Dutch creator (composer or lyricist) is active on the global music market, leads to in-transparency: creators lose overview of who represents which works where and under what conditions. On the other hand, (bigger) publishers have better IT systems, legal departments and are looking after their own interests daily, which often comes down to making a profit. Hence, the creators depend on the publisher and must have full confidence that the publisher does everything 100% accurately to represent the creators' interests. That is not always the case, not because of bad intentions or negligence, but because of the complexity of the system, complicated bureaucracy (including sub-publishers), HR problems, human errors, or IT errors. Finally, the makers have mutually different interests and cannot be considered as homogeneous. For example, makers of tunes are less interested in benefit from mechanical rights but more interested in performing rights because their work is often played on TV and Radio and not on Spotify. The exact opposite is true for the makers of pop music. Related to this we found that the digitization of the music industry enlarged the gap between the enforcement of copyright and the legal framework.

5.3 Values of the stakeholders

The most important stakeholders of the music copyright system in The Netherlands are visually presented in Figure 4.1 and explained further in sections 4.1 and 4.2 where the mutual relations of the stakeholders are outlined and explained. The digitization has transformed the entire value chain of the music industry. These technological developments have led to a lot of uncertainty in the global music industry with the accompanying exponential declines in sales and profits. The technological focus of the last two decades was more on relaunching sales and profits and less on human values of all stakeholders involved. With this research, a first step has been taken to map the values (Justice, fairness and transparency) of the stakeholders with the goal to ultimately translate them into a system redesign in which these values are included; both in technology and in the associated institutions.

5.4 Paradigm, Legislation, Technology and The Black Box

The economic rationale of the current design of the music copyright system is based on the three 'classic' economic doctrines where the focus is set on transaction costs, efficiency and society welfare. There is a need for a paradigm shift where the institutions will acknowledge the reality with heterogeneous stakeholders, with asymmetric access to information, value-tensions between and among the stakeholders and the importance of the needs and values of affected stakeholders in the new music copyright system. According to the structuralist-evolutionary conceptual approach, only then the match of Techno-Economic and Socio-Institutional Spheres of the system can be reached. Only when the diffusion of the new paradigm has reached a certain critical mass do the obstacles to a full - and beneficial unfolding of the new potential become fully visible (Perez, 2004).

The last finding of this study is the effect of digitization of the music industry on the black box of copyright. All the participants were aware of the existence of the black box and indicated that it is a term used for not one, but many problems of the copyright enforcement. The overarching view of the participants is that the black box is an "umbrella term" used to describe the inability of the CMOs to distribute the collected funds to the correct rightsholders. As stated before, the reasons for its existence vary, from outdated legacy software to data exchange problems between countries and the big tech companies withholding the data about the use of music but also the efficiency reasons related to the transaction costs of the distribution to the somewhat smaller rightsholders.

5.5 Limitations and further research

One of the limitations of this study is potential bias and subjectivity regarding one of the researcher's own participation as a professional in the Dutch music industry and his personal experience with the music copyright system in The Netherlands. The second limitation is that the research sample was restricted to experts active in Dutch music copyright industry, which could limit the knowledge produced by this study to be applied in other countries and similar contexts. We took the following measures once the possible limitations were recognized. First, a document analysis was performed to recognize the research agenda and state the assumptions prior to the interviews. Secondly, the collection of data, analysis and findings were reviewed by faculty colleagues and advisors to this research. Although generalizability was not a goal of this study, through detailed description of the background and context, this study could be assessed for its applicability in another similar context.

Based on this study we find that further research should be conducted to gain more understanding of the structure and process of the current system of music copyright and its complexities. Further research would contribute to:

1) understand and model how creators, publishers and CMOs cope with the technological innovation in the music industry 2) empirically evaluate stakeholder values through socio-cultural norms followed by translation into potential design requirements, following the Value Sensitive Design method and 3) contribute to the policy makers and economic actors discussion about future improvement of the copyright enforcement system.

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Appendix 1: The overview of Participants

Part 1: 2020 and summer 2021

Participant Number	Age Group	Education	Year of experience in the music industry	Role in the industry	Duration Interview	Date Interview
1	40-49	Master	25	Artist/Composer	01:59:08	5-2-2021
2	50-59	Bachelor	35	CMO	01:22:00	23-2-2021
3	30-39	Bachelor	20	Publisher	01:08:40	15-12-2020
4	40-49	Bachelor	20	CMO	01:24:13	2-2-2021
5	30-39	Bachelor	20	Artist/Composer	00:53:46	24-2-2021
6	50-59	Master	25	Lobbyist	00:51:59	17-3-2021
7	40-49	Bachelor	20	Artist/Composer	00:58:00	4-2 and 11-2 2021
8	50-59	AD	30	Publisher	01:34:00	14-1-2021
9	40-49	Master	25	Lawyer/publisher	01:22:36	19-11-2020
10	30-39	Bachelor	15	Publisher of books	01:43:43	30-11-2020
11	30-39	Bachelor	15	DSP	01:23:25	6-1-2021
12	40-49	Bachelor	25	Artist/Composer	00:51:00	25-1-2021
13	40-49	Bachelor	20	Artist/Composer	00:47:02	26-1-2021

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14	20-29	AD	10	Artist/Composer	01:04:46	26-1-2021
15	30-39	Bachelor	20	Publisher	00:58:56	8-2-2021
16	50-59	Bachelor	30	Publisher	00:45:46	9-2-2021
17	40-49	Master	25	Syncs / Publisher / Composer	00:35:41	7-7-2021
18	30-39	Master	10	Music Rights Lawyer	01:21:05	7-7-2021

Part 2: 2021 and 2022

Participant Number	Age Group	Education	Year of experience in the music industry	Role in the industry	Duration Interview (H:M:S)	Date Interview
1	50-59	Master	25	Lobbyist	02:02:35	23-4-2021
2	50-59	Bachelor	30	Media/Publishing/Management	01:18:47	8-12-2021
3	30-40	Bachelor	10	Publisher	01:08:14	8-12-2021
4	40-49	Master	25	Artist/Composer	01:41:43	10-12-2021
5	30-39	Master	15	Music Rights Lawyer	01:22:35	15-12-2021
6	40-49	Master	25	Syncs / Publisher / Composer	01:10:15	17-12-2021

Appendix 2: Atlas.ti codes Table

Themes Codes	Administration of copyright, Administration, a	Agreements	CMOs	Digitization	Enforcement System	Music Users	Youtube	Rights Holders Creators	Rights Holders Publishers
	Administration	Advance	Board of directors	Fingerprint	Fingerprint	Fingerprint	Future	Fair system of copyright	Transparency
	Costs	Contracts	Buma Stemra	ICE	ICE	Transparency	Monopoly	Just copyright	statements
		Deal	Buma Stemra Organization	Implementation	Implementation	Streams	Fair system of	Justice	The black box
		Digitization on contracts	Buma Stemra power structure	International	International	Working Codes	Just copyright	Transparency	Kickback
		Future Contracts	Buma/Stemra	ISRC	ISRC	Value of streams	Justice	Working Codes	Pension
		Intermediaries	CMO	IT	IT	Facebook	aleurswet	Registration	Percentage
		Publishing Contracts	CMO and creators	IT systemen	IT systemen	Streaming	Bepertingen	statements	Relationship
		Publishing Deal	CMO organization	WVC	WVC	Youtube	Copyright La	The black box	Relationships creators and publi
		Spille	CMOs	Lack of Data	Lack of Data	Monetization	Copyright La	Stakeholders	Role of publishers
		Standard Deal	Collection CMO	Legacy Software	Legacy Software	Negotiation	De Bemer co	Relationship creator with Buma/Ster	Intermediaries
		Sub Publishers	Collective	Possible solution	Possible solution	Ads	De Nederland	Relationship cretor with CMO	Relationship Publisher Creator
		System of collecting	Contribution	Slow Change	Standardization of data	Airplay	Definite Ads	Units	
			Conventie van Rome	Standardization of data	Transparency	Content Carr	Duur auteurs	BAM	Exploitation of music
			Culture	Transparency	Black box	Disinformatie	EU	Bars	History of Publishing
			Distribution CMO	Digitization on contracts	Data	Dutch music	European Co	Composers	Home copy
			Financials	Big Tech	Human Mistakes	Experience r	Law	Creators	Interests
			Fingerprint	Black box	Recognizability	Film Publish	Lawyers	Difference creators	Interests of publishers
			ICE	Blockchain	Software	Flexibel mus	Legal system	Differences	Licensing
			Implementation	Change	Solution	Future	Lobby	Different composers	Music exploitation
			Institutes	Data	Soundfile	Gebruikers v	Policy	Different interests	network
			International	Digital Fingerprint	Streams	Income CD	Policy maker	Different roles	Own interests of publishers
			ISRC	Digital Software	Monopoly	Label	Politics	Different roles creators	Power position publishers
			IT	Digital Streaming	Overhead	Live	Unfair	Dutch Publishers	Publishing
			IT systemen	Digitization	Registration	Live music	wetgeving	Education	Publishing industry growth
			WVC	Facebook	Report	Misuse		Education level	Publishing roles
			Lack of Data	Human Mistakes	Second value	Music use		Future income	Value of Publishers
			Legacy Software	Innovation	Sister Organizations	Music Users		Intelligence level	
			Mandate	Internet Radio	statements	naburige rechten		Kickback	
			Mechanical Rights	Music Industry	The black box	Neighbouring Rights		Lack of knowledge	
			Members	Recognizability	Transaction costs	Online music		Longtail	
			Mission of CMO	Shazam	Working Codes	Openbaarmaking		Make money with a creation	
			Monetization	Slow transition CMO	Intermediaries	Public performance		Makers	
			Money	Software	Sub Publishers	Radio		Music Ownership	
			Monopoly	Solution	System of collecting	Record labels		Pension	
			Negotiation	Soundfile	Application	Recordings		Percentage	
			Organization	Spotify	Complex system	Reproduction		Performance Rights	
			Overhead	Streaming	Copyright	Sampling		Performing artists	
			Possible solution	Streams	Copyright Controle	Syns		Performing rights	
			Registration	Technology	Countries	Use of music		Relationship	
			Relationship creator with Buma	TikTok	Design of the system			Relationships creators and publishers	
			Relationship cretor with CMO	Youtube	Earning money with music			Rights Holders	
			Relationship Publisher Creator		Easy system			Rights owner	
			Report		Economics			Role of creators	
			Right to collect		Efficiency			Role of publishers	
			Role of CMO		Endogenous change			Roles creators	
			Role of CMO		Enforcement			Sales of copyright	
			Second value		Enforcement of copyright			Song	
			Sister Organizations		Fair system of copyright			Sort of creators	
			Slow Change		Formal System			Uitvoerende kunstenaars	
			Standardization of data		Future Copyright			Verify work	
			statements		Future system			Welfare	
			The black box		Just copyright				
			Transaction costs		Justice				
			Transparency		Mistakes				
			Units		Practical Application				
			Working Codes		Practice				
					Secrecy				
					Stakeholders				
					System				
					System of music copyright				
					Value of streams				