Hacettepe University Graduate School Of Social Sciences

Department of Radio, Television and Cinema

DIGITALIZATION, ARTIFICIAL INTELLIGENCE AND MUSICIAN CREATIVITY

Taha Berke ÇORUH

Master's Thesis

Ankara, 2025

DIGITALIZATION, ARTIFICIAL INTELLIGENCE AND MUSICIAN CREATIVITY

Taha Berke ÇORUH

Hacettepe University Graduate School Of Social Sciences

Department of Radio, Television and Cinema

Master's Thesis

Ankara, 2025

ACCEPTANCE AND APPROVAL

The jury finds that Taha Berke Çoruh has on the date of 29/05/2025 successfully passed the defense examination and approves his Master's Thesis titled "Digitalization, Artificial Intelligence and Musician Creativity".

Prof. Dr. Ahmet Serhat Kaymas (Jury President)

Prof. Dr. Ferruh Mutlu Binark (Main Adviser)

Prof. Dr. Ahmet Serhat Kaymas

Doç. Dr. Mustafa Erman Demir

I agree that the signatures above belong to the faculty members listed.

Prof. Dr. Uğur ÖMÜRGÖNÜLŞEN

Director of the Institution

YAYIMLAMA VE FİKRİ MÜLKİYET HAKLARI BEYANI

Enstitü tarafından onaylanan lisansüstü tezimin/raporumun tamamını veya herhangi bir kısmını, basılı (kağıt) ve elektronik formatta arşivleme ve aşağıda verilen koşullarla kullanıma açma iznini Hacettepe Üniversitesine verdiğimi bildiririm. Bu izinle Üniversiteye verilen kullanım hakları dışındaki tüm fikri mülkiyet haklarım bende kalacak, tezimin tamamının ya da bir bölümünün gelecekteki çalışmalarda (makale, kitap, lisans ve patent vb.) kullanım hakları bana ait olacaktır.

Tezin kendi orijinal çalışmam olduğunu, başkalarının haklarını ihlal etmediğimi ve tezimin tek yetkili sahibi olduğumu beyan ve taahhüt ederim. Tezimde yer alan telif hakkı bulunan ve sahiplerinden yazılı izin alınarak kullanılması zorunlu metinlerin yazılı izin alınarak kullandığımı ve istenildiğinde suretlerini Üniversiteye teslim etmeyi taahhüt ederim.

Yükseköğretim Kurulu tarafından yayınlanan ***"Lisansüstü Tezlerin Elektronik Ortamda Toplanması, Düzenlenmesi ve Erişime Açılmasına İlişkin Yönerge"*** kapsamında tezim aşağıda belirtilen koşullar haricince YÖK Ulusal Tez Merkezi / H.Ü. Kütüphaneleri Açık Erişim Sisteminde erişime açılır.

- Enstitü / Fakülte yönetim kurulu kararı ile tezimin erişime açılması mezuniyet tarihimden itibaren 2 yıl ertelenmiştir. (1)
- Enstitü / Fakülte yönetim kurulunun gerekçeli kararı ile tezimin erişime açılması mezuniyet tarihimden itibaren ... ay ertelenmiştir. (2)
- Tezimle ilgili gizlilik kararı verilmiştir. (3)

29/05/2025

Taha Berke ÇORUH

[1] *"Lisansüstü Tezlerin Elektronik Ortamda Toplanması, Düzenlenmesi ve Erişime Açılmasına İlişkin Yönerge"*

(1) *Madde 6. 1. Lisansüstü tezle ilgili patent başvurusu yapılması veya patent alma sürecinin devam etmesi durumunda, tez **danışmanının** önerisi ve **enstitü anabilim dalının** uygun görüşü üzerine **enstitü** veya **fakülte yönetim kurulu** iki yıl süre ile tezin erişime açılmasının ertelenmesine karar verebilir.*

(2) *Madde 6. 2. Yeni teknik, materyal ve metotların kullanıldığı, henüz makaleye dönüşmemiş veya patent gibi yöntemlerle korunmamış ve internetten paylaşılması durumunda 3. şahıslara veya kurumlara haksız kazanç imkanı oluşturabilecek bilgi ve bulguları içeren tezler hakkında tez **danışmanının** önerisi ve **enstitü anabilim dalının** uygun görüşü üzerine **enstitü** veya **fakülte yönetim kurulunun** gerekçeli kararı ile altı ayı aşmamak üzere tezin erişime açılması engellenebilir.*

(3) *Madde 7. 1. Ulusal çıkarları veya güvenliği ilgilendiren, emniyet, istihbarat, savunma ve güvenlik, sağlık vb. konulara ilişkin lisansüstü tezlerle ilgili gizlilik kararı, **tezin yapıldığı kurum** tarafından verilir *. Kurum ve kuruluşlarla yapılan işbirliği protokolü çerçevesinde hazırlanan lisansüstü tezlere ilişkin gizlilik kararı ise, **ilgili kurum ve kuruluşun önerisi** ile **enstitü** veya **fakültenin** uygun görüşü üzerine **üniversite yönetim kurulu** tarafından verilir. Gizlilik kararı verilen tezler Yükseköğretim Kuruluna bildirilir.*
Madde 7.2. Gizlilik kararı verilen tezler gizlilik süresince enstitü veya fakülte tarafından gizlilik kuralları çerçevesinde muhafaza edilir, gizlilik kararının kaldırılması halinde Tez Otomasyon Sistemine yüklenir

***** Tez **danışmanının** önerisi ve **enstitü anabilim dalının** uygun görüşü üzerine **enstitü** veya **fakülte yönetim kurulu tarafından karar verilir.***

ETİK BEYAN

Bu çalışmadaki bütün bilgi ve belgeleri akademik kurallar çerçevesinde elde ettiğimi, görsel, işitsel ve yazılı tüm bilgi ve sonuçları bilimsel ahlak kurallarına uygun olarak sunduğumu, kullandığım verilerde herhangi bir tahrifat yapmadığımı, yararlandığım kaynaklara bilimsel normlara uygun olarak atıfta bulunduğumu, tezimin kaynak gösterilen durumlar dışında özgün olduğunu, **Prof. Dr. Ferruh Mutlu BİNARK** danışmanlığında tarafımdan üretildiğini ve Hacettepe Üniversitesi Sosyal Bilimler Enstitüsü Tez Yazım Yönergesine göre yazıldığını beyan ederim.

Taha Berke ÇORUH

ACKNOWLEDGEMENTS

I would like to thank my advisor Prof. Dr. Mutlu BİNARK for guiding me through the hardships I encountered in my academical journey. I am deeply thankful for her many teachings and never-ending support.

I am grateful to both my jury members, Prof. Dr. Ahmet Serhat KAYMAS and Doç. Dr. Mustafa Erman DEMİR— for their valuable contributions and considerate approaches.

I’d also like to thank my mother Elif ÇORUH and my father Serhan ÇORUH; for always being there, no matter what.

ABSTRACT

ÇORUH, Taha Berke. *Digitalization, Artificial Intelligence and Musician Creativity*, Master's Thesis, Ankara, 2025.

This research investigates how digital technologies and artificial intelligence (AI) impact musician creativity and authenticity within contemporary music production. Adopting a qualitative methodology involving thematic analysis of semi-structured interviews with professional musicians, the study explores tensions between creative freedom and constraints imposed by algorithmic curation and platformization. Findings reveal that musicians perceive digitalization as a dual-edged phenomenon: while it enables unprecedented creative possibilities through advanced software and AI tools, it simultaneously pressures artists into conforming to algorithmic standards that prioritize short, catchy, and commercially viable music. Central concerns identified include the potential loss of authenticity and artistic integrity, exacerbated by streaming services' opaque algorithms dictating listener preferences and musicians' creative decisions. Moreover, the idea of democratization in music distribution is critically reassessed, putting on display persisting inequalities shaped by algorithmic gatekeepers. Musicians, in order to be successful, have to navigate these conundrums by carefully balancing technological engagement with personal authenticity. The study contributes empirical insights into ongoing debates surrounding creativity, authenticity, and digital transformation in music, emphasizing that despite significant challenges, artists retain agency in determining their creative pathways

Keywords

Digitalization, Artificial Intelligence, Creativity, Music, Musician

GENİŞ ÖZET

ÇORUH, Taha Berke. *Dijitalleşme, Yapay Zeka ve Müzisyen Yaratıcılığı*, Yüksek Lisans, Ankara, 2025.

Bu çalışma, dijitalleşme ve yapay zekâ (YZ) teknolojilerinin müzikal yaratıcılık üzerindeki etkilerini inceleyerek, teknolojik dönüşümün sanatçıların üretim süreçlerini nasıl şekillendirdiğine dair derinlemesine bir anlayış sunmaktadır. Özellikle müzik üretimi, dağıtımı ve tüketiminin dijital ortamlara taşınmasıyla birlikte müzisyenlerin karşı karşıya kaldığı yeni olanaklar ve kısıtlamalar araştırmanın merkezinde yer almaktadır. Bu bağlamda, çalışma profesyonel müzisyenlerle gerçekleştirilen yarı yapılandırılmış görüşmelerin tematik analizi yoluyla, dijitalleşme ile yaratıcı özgürlük arasındaki karmaşık ilişkiyi anlamayı hedeflemektedir.

Araştırmanın teorik çerçevesi, yaratıcı üretimin bu koşullar altında nasıl şekillendiğini anlamaya yönelik literatüre dayanmaktadır. Dijitalleşmenin sunduğu araçların müzikal üretimi demokratikleştirdiği yönündeki söylemler, eleştirel bir perspektifle ele alınmakta ve bu dönüşümün arkasında yatan platformlaşma, algoritmik kürasyon ve kültürel emek ilişkileri sorgulanmaktadır. Bu bağlamda çalışma, sadece teknolojik araçların sunduğu imkanlara odaklanmakla kalmayıp, aynı zamanda bu araçların müzisyenler üzerindeki yapısal etkilerini de açığa çıkarmaktadır.

Katılımcıların deneyimleri, dijital teknolojilerin yaratıcılık üzerinde çelişkili etkiler yarattığını göstermektedir. Bir yandan, gelişmiş dijital yazılımlar, ses düzenleme araçları ve YZ destekli kompozisyon sistemleri sayesinde müzisyenler teknik anlamda daha fazla özgürlüğe ve üretkenliğe kavuşmuştur. Özellikle bağımsız müzisyenler için dijital araçlar, prodüksiyon ve dağıtım süreçlerini kolaylaştırmakta ve yaratıcı özerklik sağlamaktadır. Diğer yandan ise, müzik platformlarının algoritmalarının belirleyici hale gelmesi, müzikal içeriğin biçimi ve süresi üzerinde standartlaştırıcı bir etki yaratmaktadır. Bu durum, özellikle kısa, dikkat çekici ve ticari başarı potansiyeli taşıyan şarkıların öne çıkmasına neden olmakta ve müzikal çeşitliliği sınırlamaktadır.

Görüşmelerden elde edilen veriler, müzisyenlerin dijital ortamları hem bir fırsat hem de bir tehdit olarak gördüklerini ortaya koymuştur. Katılımcılar, yaratıcı süreçlerde teknolojik araçlardan aktif biçimde faydalanmakla birlikte, algoritmik görünürlük uğruna üretimlerini yeniden şekillendirme baskısı hissettiklerini ifade etmişlerdir. Bu baskı, özellikle müzik dinleyicilerinin davranışlarını etkileyen algoritmaların işleyişinin şeffaf olmaması nedeniyle daha da belirgin hale gelmektedir. Müzisyenler, dijital platformların sunduğu görünürlüğün, sanatsal kaliteden çok platformların öngördüğü performans metriklerine bağlı olduğunu vurgulamışlardır.

Çalışma aynı zamanda “müzik üretiminde demokratikleşme” kavramını eleştirel biçimde yeniden değerlendirmektedir. Dijital platformların herkese açık olması, ilk bakışta eşit fırsatlar sunuyormuş gibi görünse de, algoritmik sistemlerin ve platform tabanlı aracı yapıların etkisiyle bu eşitliğin çoğu zaman yüzeyde kaldığı gözlemlenmiştir. Özellikle sosyal sermayeye, dijital pazarlama bilgisine veya profesyonel ağlara sahip olmayan müzisyenlerin içeriklerinin görünürlüğü sınırlı kalmaktadır. Böylece dijitalleşmenin, müzik sektöründeki tarihsel eşitsizlikleri dönüştürmek yerine yeniden ürettiği anlaşılmaktadır.

Sonuç olarak, bu tez dijitalleşme sürecinin müzikal yaratıcılık üzerindeki etkilerini yalnızca teknik değil, aynı zamanda sosyokültürel ve yapısal boyutlarıyla ele almaktadır. Müzisyenlerin, dijital teknolojileri yaratıcı özgürlüklerini koruyacak şekilde nasıl yorumladıkları ve kullandıkları, çalışmanın en önemli katkılarından biridir. Katılımcıların büyük bölümü, teknolojinin sunduğu imkânları kendi sanatsal vizyonlarına uyarlamak için stratejik seçimler yaptıklarını ve bu sayede hem yaratıcı kalabildiklerini hem de dijital platformlarda varlık gösterebildiklerini belirtmiştir.

Bu bağlamda çalışma, dijitalleşme ile yaratıcılık arasındaki ilişkinin tek yönlü ya da deterministik bir yapıya sahip olmadığını ortaya koymaktadır. Müzisyenler, mevcut dijital ekosistemin içinde kendi özgünlüklerini sürdürmenin yollarını aramakta ve zaman zaman bu sistemin sınırlarını zorlamaktadır. Araştırma, sanatçıların dijital çağda yaratıcı özne olarak kalabildiklerini, ancak bu öznenin içinde bulunduğu yapısal çerçevenin daha fazla şeffaflık, adalet ve çeşitlilik gerektirdiğini vurgulamaktadır.

Bu bulgular doğrultusunda, gelecekteki politika yapıcılar, müzik platformları ve kültür politikaları üzerine çalışan aktörler için öneriler geliştirilebilir. Özellikle şeffaf algoritmalar, yaratıcı içeriklerin desteklenmesi ve platformların sanatsal çeşitliliği koruyacak şekilde düzenlenmesi, müzikal yaratıcılığın sürdürülebilirliği açısından önem taşımaktadır. Çalışma, dijital dönüşümün etkilerine dair daha geniş kültürel analizlere de zemin sunarak, yaratıcı emeğin geleceğine dair eleştirel bir perspektif sunmaktadır.

Anahtar Sözcükler

Dijitalleşme, Yapay Zeka, Yaratıcılık, Müzik, Müzisyen

TABLE OF CONTENTS

ABBREVIATIONS

AI	Artificial Intelligence
AIVA	Artificial Intelligence Virtual Artist
ASCAP	American Society of Composers, Authors and Publishers
CD	Compact Disc
CGI	Computer Generated Imagery
DAW	Digital Audio Workstation
DDSP	Differentiable Digital Signal Processing
EEG	Electroencephalogram
ELVIS	Ensuring Likeness Voice and Image Security Act
EMI	Experiments in Musical Intelligence
EU	European Union
GAI	Generative AI
GAN	Generative Adversarial Network
GENAI	Generative AI
GPT	Generative Pre-trained Transformer
IFPI	International Federation of the Phonographic Industry
ILLIAC	Illinois Automatic Computer
LAN	Local Area Network
LLM	Large Language Model
LP	Long Play
LSTM	Long Short-Term Memory
MAMAA	Meta, Apple, Microsoft, Amazon, Alphabet

MIDI	Musical Instrument Digital Interface
MIT	Massachusetts Institute of Technology
MMA	MIDI Manufacturers Association
MMM	Multi-Track Music Machine
MP3	MPEG-1 Audio Layer 3
MSP	Music Streaming Platform
NFT	Non-Fungible Token
P2P	Peer-to-Peer
RIAA	Recording Industry Association of America
RPM	Revolutions Per Minute
UI	User Interface
UK	United Kingdom
UMG	Universal Music Group
US	United States
VAE	Variational Autoencoder
VST	Virtual Studio Technology

TABLES INDEX

INTRODUCTION

The creation of all forms of art, as extensions of the humane, is intrinsically connected to developments in science and technology. Even if more traditional mediums to create may persist among their niche communities of creators, the standard methods that apply to creative processes are constantly subject to change. The pointrels of sculptors, brushes of painters, and rulers of architects from ages bygone are now represented by mere mouse strokes and key presses within the digital realm, among an endless sea of software, perhaps inspired by but not exactly replicating the creative ways of yore. Hardware and software, designed with the lofty goals of speeding up productivity and enhancing one's creativity, have not only affected the arts but also brought change upon every industry that even has an ounce of creativity. Every creative industry has had its own battles with digitalization throughout time, from earlier discussions among film communities on how much computer-generated imagery (CGI) is too much to have in a film to the recent talks on the automation of art creation with non-fungible tokens (NFTs). However, perhaps the most enduring and fascinating of these battles is that of the music industry.

Many scholars are dedicated to researching the change in the music industry in the face of digitalization. One facet that usually comes up within these discussions is the democratization of music (Hesmondhalgh, 2019; Feyre, 2020; Hagen, 2022). Both audience access to music and creation of it are thought to be democratized in one way or another; however, more often than not, every researcher ends up providing different caveats over this fact, that the seeming democratization of music may not be as pure as it seems at first glance. The ability to reach massive audiences that began with mostly analogous technologies in the recording industry has grown exponentially with the opportunities provided by modern digital technologies. While modern technology offers never-before-seen opportunities to create, distribute, and consume music, this process also raises issues regarding concepts such as ethics, intellectual property rights, artist compensation, and the potential homogenization of music.

However, among these, a persistent problem that comes up within most industry investigations has to do with the algorithm's ability to dictate what a listener listens to and what a musician *has to* create to be successful. The term ‘algorithmic curation,’ which is to be explored further in later chapters, is what dictates user experience on almost all digital platforms. Ranging vastly from shopping platforms such as Amazon to social media platforms such as Instagram, the algorithmic, complex machine-brain working tirelessly behind the professionally designed, clean user interface is what mandates the content the user sees. Led by MAMAA (Meta, Amazon, Microsoft, Apple, Alphabet) companies, Big Data tries to accumulate as much data about the individual as possible to display potentially infinite personalized content and aim for non-stop user engagement to feed the machine of boundless greed that is surveillance capitalism. Coiner of the concept of ‘surveillance capitalism,’ Zuboff inquires, “Will we be the masters of information, or will we be its slaves?” (2014). This question also stays relevant in the art space and especially within the music industry itself. Music streaming platforms (MSPs) are anything but exempt from the aforementioned norms of big data. From data collection to personalized suggestions on what to listen to, MSPs, especially Spotify, end up recycling the most engaging forms of user interaction from other platforms, Facebook-like friend lists, X-like follow features, and Instagram-like story functions, only to name a few. This cyclical structure of gathering user data and feeding it back to the end user raises questions from both a listener’s standpoint and a musician’s standpoint. The main questions identified on the listener’s behalf are as follows: First question: Does streaming limit the potential of musical discovery due to suggesting songs that are already similar to what the user usually listens to? The second question asks if streaming as a practice encourages ‘functional’ listening, rather than an aesthetic one, among many playlists created for occasions rather than genres, such as ‘workout’ or ‘sleep’ playlists (Hesmondhalgh, 2021). The digital catechism of indoctrinating users with algorithmically curated content **does** shape user taste and, to an extent, limits exposure to more niche genres and to the diverse artistry that only the art form of music can offer. Although the perspective of this thesis is mostly to research the subject of digitalization and AI through the lens of the musician,

these inquiries from a listener perspective provide essential guidelines on how musicians have to navigate the digital landscape, as many a musician tries to incline towards audience dispositions whilst trying to balance the scales of artistic freedom and vital monetary income.

The earlier proposition brings the discussion to the impacts of the concepts of streaming and algorithmic curation on musicians and, therefore, musician creativity. The never-ending havoc of musicians versus the industry has never been more evident. As before, the ordeals of royalties and artistic mishaps were conducted behind mostly closed studio doors, away from the general public, besides the prying eyes of curious journalists. In contrast, almost every statistic on music is somewhat available to collect for the general public, not only through industry reports but simply by visiting a musician's Spotify page, as the page provides listening numbers down to each song. This is in connection with the analytical fundamentals of music streaming platforms. The platforms not only collect data for their own algorithms but also provide some of it to the audience and, more importantly, to the musician. Through their own interfaces, such as Spotify for Artists, modern independent musicians are expected to either have an analyst and a marketer or simply be one themselves in order to be monetarily successful. Although here, there is an argument to be made in musical democratization's favor; being monetarily successful in music was never easy. Musicians were always expected to have either a team or a patron backing them up to be monetarily successful, and streaming platforms only made it easier for musicians to accomplish this task by themselves. While this idea carries some very credible weight, the question of whether the analyticity of streaming platforms negatively impacts, or even hinders, musical creativity remains. The core of the question endures: in an industry where only the first 30 seconds of a song counts as a ‘listen,’ where top playlists are generated algorithmically, and the only fact the algorithm cares about is *current* popularity, how much is the worth of artistic integrity, authenticity, and creativity? Does moving the best part of the song to the first 30 seconds, not because that was the artistic intention all along, but only because that is what the algorithm would deem successful, sacrifice creativity? Should every musician aspire to do what is currently popular

only to get a shot for algorithmic promotion to the first page or a top spot on a popular playlist? Asked not from a nostalgic standpoint but rather a firm chronological one, are the days of the professional human curator discovering a niche genre and bringing it to the forefront gone, only to be replaced by algorithms that only care about what is currently popular? How transparent are these algorithms anyway? These are the primary questions that are the main concern of this thesis regarding the clash of algorithmic curation and musician creativity.

The debate regarding technological influence over musical creativity has only become more chaotic nowadays. Developments in the artificial intelligence (AI) space have started the ‘AI boom’ or the ‘AI Spring’ of recent years. Facing these changes, musicians' creativity and musical authenticity, similar to many other forms of art, are currently facing risks of either a diminishment of human input in the creative processes or a complete transformation of our current understanding of these concepts. The post-COVID boom of language learning models (LLMs) such as ChatGPT and Gemini, most of which are either supported or developed by the aforementioned MAMAA companies. Under the umbrella term of “generative AI,” these technologies aren’t limited to text output; they are capable of writing catchy musical melodies and generating entire paintings from mere text inputs. Generative AI technologies can not only be used to inspire artists but also to imitate and, even further, outright create full artworks from start to finish that can be appreciated by audiences without concern for their artificial origins.

LLMs are currently capable of creative endeavors in a manner that can only be described as ‘similar to human.’ One could most definitely argue that human creativity works in a similar input-to-output fashion to these AI systems. In its most basic form, LLMs acquire an input from the user and produce an output that utilizes their extensive knowledge base, which consists of vast datasets of previous human output throughout the internet. Similarly, an individual artist’s experiences, emotions, and past knowledge could be perceived as an input, and the artwork that is created an output. Perhaps oversimplified, this analogy paves the way for further discussions of human and AI collaboration within creative processes. Opening up the debate begs the question, similar to the film

community's quarrels with CGI in the past: “How much AI is too much?” At what point does a human-AI collaboration become less of a partnership and more of a dependence? Should the usage of AI even matter if the artwork is monetarily successful and the artist is content with their art anyway? In the case of monetary success, this question spawns another one intrinsically, regarding royalties: who owns the artwork? It’s a long-winded discussion with many laws currently being inadequate at resolving the situation, as there are many stakeholders in the case of even the most basic human-AI collaboration: the artist themselves, the company that created the AI, the AI as an entity itself, the providers of the datasets that the AI is trained on, and finally the original creators of the data included in the dataset. Voices from all art communities, from various ranges of monetary success—small commission-based artists to superstar singers—can be heard protesting the current state of art as engulfed in AI plagiarism, stating that AI not only plagiarizes art but also devalues the authenticity of previously existing artworks by duplicating similar ones into existence. As human art is also inspired by other art, building a plagiarism argument on how AI tools produce art inspired by already existing art becomes paradoxical. The primary concern of these objections is that it is currently possible to exactly mimic another person’s voice and style completely through AI generation. To be explored further, these sentiments are reminiscent of similar dissatisfaction with the ‘sampling’ technique artists had in the past. What fair use is and what plagiarism is may legally be resolved with adequate laws, which are still developing as of this writing. However, it is still up for debate whether AI use in music will be somewhat normalized in the future, such as sampling.

Moving forward from the concept of democratization from earlier discussions of algorithmic curation, with AI tools like Suno, it’s easier than ever before to create a song. Just a text prompt including mood, instruments, themes, and tempo outputs a whole song. In the same vein, it can be argued that music theory itself took a backseat for the musicians of the early digital age; technical know-how and software usage were the primary skills. One foresight is that perhaps ‘prompt engineering’, knowing how to interact with an AI tool and recognizing which input outputs what, will take the place of the current need to spend countless hours

learning how to use a digital audio workstation efficiently. The idea of a song can come to life simply with a text prompt rather than hours upon hours of work, therefore enhancing the artist's creative output and production speed. On the other side of the medallion, however, one could reason that the ease of access AI provides diminishes skill expression and virtuosity, and therefore creativity in music. Over-reliance on AI, not as a support tool but a complete means to produce music, could therefore be perceived as a lack of creative input from the actual artist, thus having a negative effect on the overall creativity of the artist and the authenticity of the piece. This in and of itself is a non-consensus deliberation, as there will always be purists on either side of the spectrum.

Ultimately, what is clear is that emerging digital technologies and AI itself create both opportunities and obstacles in the context of musician creativity. Whilst it is possible that these technologies can enhance creativity as a concept and expand on what is already possible, they may also lead to a stagnation of creativity. Both generative and algorithmic capabilities of present AI technologies are capable of starting a creative stagnation, as the pressure to conform to the needs of these technologies is becoming more and more apparent each day. The primary concern of this research is to explore how musicians navigate these conundrums while they try to balance new and traditional practices of creating music. To make this concern more achievable, this research adopts a qualitative approach, in which semi-structured interviews with professional musicians are conducted. The sampling of these interviews is composed of musicians who have varying levels of engagement with AI technologies, not consisting entirely of those who use AI or are contrarian to its usage. The data that has been collected from the interviews is transcribed fully and analyzed using thematic analysis. Thematic analysis is a method used to identify, analyze, and report patterns within data. It allows the organization and description of a dataset in detail while also being capable of providing in-depth accounts. (Boyatzis, 1998 as cited in Braun & Clarke, 2019 p.875) Therefore, the interviews will provide unique insights into the intersection of digital technologies and musician creativity. This methodology allows for an in-depth understanding of each musician's experiences and concerns on a more personal level.

The denouement obtained from this methodology is expected to somewhat clarify the challenges this ongoing digital transformation brings upon musician creativity and the music industry itself as a whole. As the industry continues to change, the risks posed to artistic integrity and authenticity are becoming more apparent, and this research aims to contribute to the ongoing discourse by providing empirical insights through the experiences of musicians on an individual level.

CHAPTER 1

THE MUSICIAN & THE INDUSTRY

Although often thought of as symbiotic, in which both parties are benefiting off of each other, the relationship between the musician & the industry tends to be full of tension. Historically speaking, musicians were once thought to be primarily after pure creative expression, transmitting thoughts and telling stories with music. Moving forward from this cultural identity, the industry surrounding musicians principally began as a medium to distribute and commercialize creativity. However, in due time, the boundaries between both parties started getting blurry, as in the digital age, an artist is not only expected to produce art but is also expected to be a content creator, an entrepreneur, a marketer, and a commercial brand by themselves. This conclusion stands especially true in regard to the independent artist, who often has to make up for the lack of external funding with their own skills in the aforementioned areas. Even though there are brighter perspectives that applaud the digital age of music for its capabilities of democratizing the industry, since it is easier than ever to produce and distribute music on an individual level, the necessities and anxieties brought by having to work within a data-driven and extremely commercialized digital ecosystem remain equally correct. Due to platforms such as Bandcamp and SoundCloud focusing on the individual musician and providing the ability to distribute without any intermediary, alongside the rapid development in production technologies, without a doubt, allowed musicians to produce and distribute from their home studios with much lower costs. However, on the contrary, these digital spaces came along with their own issues: an issue to be visible in an ocean of similar content and cents for royalties.

After the rise of music streaming platforms, musicians today have to deal with algorithm-focused platforms such as Spotify, YouTube, and TikTok, alongside the traditional gatekeepers of the industry, such as radio stations and record companies. Having to either do everything by themselves or juggle all of these

authority figures in the industry all at once brings musicians to the very intersection of creativity and commerce. Measures that digital age brings shifts the focus of the musician from artistic finesse to keeping up with the constant, extremely fast loop of production and consumption. Authenticity, once thought to be the essence of creative and artistic integrity, now has to coexist with the obligations of digitalization, creating new tensions within the industry. The following sections will explore what it meant to be a musician in the past and what it is like to be a musician today, examining the roles of creativity and authenticity in an industry that is increasingly driven by digital technologies. Also delving into how the digital distribution and production mechanisms influence both the creation and consumption of music. This chapter will lay the groundwork for understanding the broader digital trends—such as algorithmic curation and the growing influence of AI—that are shaping the future of the music industry.

1.1. WHAT MAKES A MUSICIAN?

Being a musician transcends the mere capacity to manipulate an instrument or navigate musical notation. It encompasses a composition of creativity, authenticity, and engagement with music itself on an individual level. One could argue that musicianship is about expressing emotions, pushing boundaries with innovative thought, and forging a resonant bond with listeners. At the core of a musician's essence is creativity, a dynamic force powered by the ability to think divergently. This creative prowess is exemplified in jazz musicians, whose adeptness at divergent thinking surpasses that of their counterparts in classical and folk genres, enabling them to engage in more inventive musical endeavors (Benedek et al., 2014). Creativity discussions also diverge between those who prefer individuality—to be discussed in later chapters—and ideas that propose a synergy of group dynamics, where the spontaneity of improvisation and the richness of collaboration birth unique musical experiences and the collective genius inherent in musical ensembles (Sawyer, 2006). Besides the capacity to understand and apply complex nuances of musical compositions, lived experience and deep emotions are almost always pointed out in the description

of a musician as the fundamental building blocks for being capable of producing authentic music.

Expanding on these ideas, it's apparent that the journey of a musician is one of continuous exploration and self-discovery. The teamwork between creativity and authenticity forms a foundation upon which musicians build their unique identities. Creativity invites musicians to explore the uncharted territories of their imagination while authenticity grounds them in their true selves, ensuring their music resonates with sincerity and depth. This dual pursuit not only enriches the musician's personal artistry but also elevates the listener's experience, transcending the notes played. In essence, the musician's path is marked by a relentless quest for original expression and genuine connection. Through the lenses of creativity and authenticity, musicians navigate the vast landscape of human emotion and experience, crafting sounds as a testament to the power of music, which serves as a bridge between the abstract and the tangible, inviting listeners into a shared space of understanding and empathy.

Building upon the insights into creativity, authenticity, and the essence of musicianship, Jacques Attali's (1977/2017) analysis offers an expansion on the musician's role, casting them as pivotal agents of cultural and political transformation. Attali (1977/2017) also positions musicians not merely as producers of sound but as prominent figures in shaping and challenging societal narratives. This perspective resonates with the upcoming discussion on creativity and authenticity, as musicians wield their genuine expression not only to create art but to engage in a broader dialogue with society. Their music, as Attali suggests, becomes a powerful medium for reflecting upon and questioning the structures and norms of the world around them. Attali points to the significance of music as a form of human endeavor that extends beyond aesthetic pleasure to embody a critical commentary on societal conditions. Musicians, through creativity and authenticity, embark on a personal journey that transcends artistic creation. They discover their voices within the context of their cultural and historical backgrounds, embedding in their music both a reflection of their

individuality and an insightful critique of societal dynamics and of societal evolution, challenging established normativities and paving the way for new ideas. Attali's (1977/2017) exploration in his book not only complements the discussion of musicians' creative and authentic journeys but also amplifies the understanding of their pivotal role in driving forward the narrative of human progress.

Moreover, Attali (1977/2017) elevates the musician to the role of a visionary, one whose work not only captures the zeitgeist but also anticipates and precipitates societal evolution. This visionary aspect complements the earlier discussion on the transformative nature of musicianship, displaying how musicians contribute to the ongoing dialogue of societal change. Their ability to produce "noise" that disrupts the prevailing social harmony and accents their role as architects of societal evolution, challenging established norms and paving the way for new forms of understanding and organization. Attali's (1977/2017) exploration in Noise not only complements the discussion of musicians' creative and authentic journeys but also amplifies the understanding of their pivotal role in driving forward the narrative of human progress. Musicians, thus, stand at the confluence of individual creativity and societal transformation.

Musicians as prophets of societal change does find its parallels within historical views of poetry. This connection is particularly resonant with Percy Bysshe Shelley's Romantic era perspective, where he elevates poets to the status of "unacknowledged legislators of the world" in his essay "A Defence of Poetry." Shelley's assertion that poets possess a near-divine insight into the human condition and the natural world is similar to the roles attributed to musicians (2009). Just as musicians are seen as visionaries capable of challenging and redefining societal norms through their art, Shelley (2009) positions poets as seers with the ability to reveal the underlying unity and harmony of the universe that eludes common perception. This correlation marks a broader artistic phenomenon where creators, be they musicians or poets, are vested with the power to influence and guide humanity. Both mediums, music and poetry, serve

as conduits for expressing the moral and aesthetic dimensions of life, offering insights that propel society towards truth and beauty. The notion of divine inspiration, as discussed by Plato in "Ion" (2024), further bridges these artistic expressions, suggesting a shared lineage of inspiration that transcends human intellect and taps into a higher muse. Musicians, like poets, through their creative and authentic engagements, act as intermediaries for this divine inspiration, channeling their emotions into works that resonate with and thoroughly affect the collective human experience. In drawing these parallels, we see a unification of artistic endeavors across time and medium, where the role of the creator extends beyond the mere production of art to embody a transformative force within society. Whether through the harmonies of music or the eloquence of poetry, artists challenge us to see beyond the surface of our existence, urging us towards a deeper understanding of ourselves and the world around us. The core concepts of what makes a musician that are relevant to this research are “creativity” and “authenticity.” To clarify the necessities of why these concepts are important for the identity of a musician, a brief description of each concept is only appropriate.

1.1.1. Creativity

Discussions of the concept of creativity are usually defined as ambiguous, which makes the connection between creativity and the contemporary musician even more complex. Creativity is assumed by most to be an ageless concept that accompanies with it persistent meanings throughout time, however the definitions of the term were subject to change constantly. The etymological heritage of the word is derived from the Latin word ‘creare’, which connotes bringing something forth. The roots of the word itself makes apparent that ‘creating’ was not associated with human beings but rather with God and natural fruitfulness (Kaufman, Glaveanu, et. al, 2019, p.10). Since the word itself was used for non-human means of growth and production during its inception, words such as ‘ars’ and ‘artis’ were instead used for human forms of making (Weiner, 2000, p.41). The origins of the contemporarily used concept of creativity itself can be found during the Enlightenment era as the aforementioned, superannuated meanings of the word have been challenged during the Renaissance (Kaufman, Glaveanu,

2019, p.11). Moving on from a world in which the ability to create was exclusive to God to a world where the belief that everyone had the potential to create is commonplace (Weiner, 2000, p.257), Creativity had become a regular part of the English lexicon, with its first known written instance being found in a work by Adolphus W. Ward in the year 1875, in which he references poetry & Shakespeare (Weiner, 2000, p.89.).

According to researcher Hanson Hanchett, the notion of the individual serving as the center of creativity is a relatively modern concept, consequently, whilst it's possible to be inclined to retrospectively attribute the term "creativity" to notable works of the past; the creators and their audiences at the time probably would not have been able to comprehend this idea (Hanchett, 2015, as cited in Kaufman, Glaveanu, 2019, p.10-12). Therefore, as historian Paul Oskar Kristeller puts it; the term itself often stands vague, ill-defined and has poor philosophical and historical credentials (1983, p.105).

Drawing the line on what creativity isn't often appears to be much easier than describing what it actually is. Separating the word itself from those adjacent to it helps clarify the confusion on why creativity is often pointed as one of the primary attributes of a good musician, and not others. As elaborated by Samuel W. Franklin in his book *The Cult of Creativity*, the term creativity comprises a unique mix of facets that aren't found in others. In this sense, although bordering words such as 'ingenuity' and 'inventiveness' are valuable in their own right, they often end up accentuating more utilitarian perspectives whilst lacking the inherently artistic basis of the word creativity (2023, p.8). Similarly, genius' is critiqued as being too exclusionary and 'cleverness' is described as overly mundane. In this regard, Franklin positions creativity as more democratic than genius, therefore clarifying that creative potential is more inclusive. In contrast to the utilitarian resonances of 'inventiveness', the word 'imagination' is separated by creativity by its lack of requirement for a tangible output or practical utility, as creativity is often celebrated for its ability to manifest ideas into concrete forms, especially in artworks (2023, p.8). Creativity as a concept may not be precise, but it is vague in precise and meaningful ways. Just as light can be both particle and wave,

creativity somehow manages to exist as simultaneously mental and material, playful and practical, artsy and technological, exceptional and pedestrian. Although there is a consensus on the ubiquity of the concept, most of the discourse surrounding it revolves around three key points. As outlined by Kaufman and Glaveanu (2019, p.15), these points are if creativity is an individual or social phenomenon, if the value of creative works lies in their novelty or utility and whether creativity is more about generating ideas or translating them into action.

First point on creativity being whether a social or individual phenomenon does find its similarities within music. Musicians, especially those that are involved in bands or orchestras rather than solo artistry often try to balance individual expression within a collaborative endeavor. In the case of the solo artist, since the artist themselves is the sole visionary driving the creative process, the process itself could be described by a journey of personal exploration and self-expression. The solitary journey of musical expression allows the individual musician to be immersed in the creative process, pushing their own creative boundaries whilst conveying emotions unique on an individual level. The assertion that creativity is predominantly an individual endeavor rather than a collective undertaking is rooted in a plethora of theoretical perspectives within the academic discourse. Numerous explanations have been posited in the literature to account for the purported hindrance of group creativity, spanning from concepts such as social loafing and groupthink to the phenomenon of production blocking. Social loafing, which refers to the diminished individual effort within a group setting, can impede the generation of creative ideas as members may rely on the contributions of others, thereby diluting the potential richness of diverse perspectives (Kaufman, Glaveanu, et. al, 2019, p.34). As the act of ‘groupthink’ is generally characterized by a conformist tendency to prioritize consensus over divergent thinking, it is often expected to ground the expression of more unconventional ideas. In contrast, the collaborative nature of a band introduces a more complex dynamic. In bands, the negotiation of creative input becomes an art form in itself. Musicians must create a balance between asserting their individual creative voices and harmonizing with the collective sound of the group.

The collaborative process necessitates a dance between autonomy and integration, where musicians must yield to the collective vision while retaining the essence of their unique contributions. This balance often leads to the creation of musical works that transcend the sum of individual parts, reflecting a harmonious fusion of diverse influences.

The tension between a solo artist's vision and the collaborative process of a band could be described as a mirror of the broader struggle between individual autonomy and collective conformity of modern society. One of the more contemporary approaches to the idea of collective creativity can be found within Max Haiven's book, "The Radical Imagination" (2018). In which Haiven discusses the transformations that the concept of creativity has undergone in the last two to three decades, the journey of its evolution into a massive industry (2018, p.181). Haiven explicates the concept of "enclosure". According to Haiven, enclosure is a strategy used by the capitalist system and power structures to protect the existing order and dominant ideologies. Enclosure is a process that restricts and controls alternative thoughts, diverse creative expressions, and dissenting actions in society. It aims to confine ideas, art, and social movements within certain boundaries to hinder their revolutionary or transformative potential. Haiven notes that enclosure can manifest in various forms and can be observed in different fields such as politics, media, education, and culture. These mechanisms strive to promote specific ideas, values, or behaviors while attempting to suppress others. Enclosure serves as a tool to maintain power relations and uphold hegemony. Dominant powers use this mechanism to impede the spread of alternative ideas and prevent social transformation. Haiven emphasizes the need to overcome enclosure and promote alternative creativity. This involves individuals questioning and surpassing the limiting structures of society through resistance and collective actions. This process encourages individuals to explore their creative potentials, develop alternative forms of expression, and challenge hegemonic norms. Haiven argues that these enclosure mechanisms dull creativity by individualizing it, asserting that creativity is inherently social and societal. He contends that the commodification of creativity was completed in the mid-20th century, turning creativity into private

property for individuals (2018, p.187). According to Haiven (2018), creativity has become a fully industrialized product in these years, distanced from society by increasingly stringent intellectual property laws. Creative products, along with academic institutions, galleries, museums, conservatories, and funding entities, have been attributed a 'high art' status by power structures, alienating them from society. Fast forward to the present day, Haiven quotes Bill Gates to characterize the current era as the 'Creative Capitalism' age (2018, p.193). Gates believes that despite some misdirections, free markets have been the most powerful, dynamic, flexible, and creative forces in human history (2018, p.194). In the 21st century, the gatekeeping of creativity is attributed to digital capital and digital competence. According to Haiven, drawing from Tiziana Terranova, in today's creative economy, many are constantly engaged in "free" creative work, producing what internet merchants call "content" (Terranova, as cited in Haiven, 2018, p.192). Taking into account the demand for digital capital, Haiven makes the following inference about creative capitalism and the enclosure of creativity by digital capital and competence: "Our skills such as taking and editing digital photos, creating social networks, working on visuals in Photoshop, preparing video collages, writing blogs, or fan fiction—all of these engage us in the brave new world of the job market where we compete with thousands of people to get into dwindling (and probably bad) jobs" (2018, p.192). Haiven argues that "creative capitalism" is based on unchecked individualism, promoting it and ironically undermining creative opportunities (Haiven, 2018, p.198). Haiven's exploration of creative capitalism and the role of digital competence in gatekeeping creativity finds resonance in the contemporary music scene. The demand for digital skills and the constant production of digital content contribute to a competitive environment where musicians contend for visibility and opportunities in a crowded digital landscape. The individualistic ethos of creative capitalism, as identified by Haiven, intersects with the musician's quest for recognition and success within a digitally driven music industry. A major problem in today's music industry is that creativity is frequently commercialized and constrained by capitalist institutions that value individualism over collectivism. Max Haiven's critique of "creative capitalism" brings this issue to light. This

phenomena is closely related to the difficulties experienced by modern musicians, who have to continuously create "content" in order to remain competitive in a crowded market. According to Haiven, the gatekeeping of creativity by digital capital and expertise has forced musicians to perform creative work that is frequently unappreciated or devalued. It spotlights the tension between art and economics that permeates much of the modern music industry that creativity is now more of a tool for survival than for pure expression due to the requirement for internet visibility and marketability.

Comprehending the underlying principles of the concept of creativity within the framework of contemporary musicianship is vital in order to comprehend the wider dynamics operating within the music industry. As previously said, the definition of creativity has changed over time, moving from a supernatural, non-human energy to a very personal, socially entrenched idea. Today's musicians are not only artists; they are also products of their environment, influenced by cultural, technological, and economic factors. Musicians need to learn how to negotiate the complex web of expectations that come with being creative in the present period, in addition to utilizing their creative potential, in a field that is becoming more and more dominated by digital platforms.

This tension escalates more upon proceeding into the next chapter on the concept of "authenticity." Like originality, authenticity has many facets and is sometimes difficult to define, particularly in the digital age when musicians must uphold both their artistic integrity and their commercial appeal. However, the pressures of the music industry, which puts marketability ahead of genuine artistic expression, frequently undermine authenticity. Authenticity is influenced by the same systems that commercialize creativity in terms of performance and perception. For musicians nowadays, striking a balance between creativity and authenticity is a tough task. The concept of authenticity and how it relates to creativity and the music business will be discussed in detail in the upcoming chapter. Another point of research is how digitalization changed what authenticity means for musicians and whether it's still possible to stay true to oneself in the face of digital capitalism.

1.1.2. Authenticity

Etymologically, the word "authenticity" derives its roots from the Greek 'oto.' 'Auto,' meaning self, also serves the same function in English, as seen in words like 'autobiography.' Additionally, the Greek word 'Oto' (αυτός) also signifies "one's incorporeal soul, true personality." Understanding the origin and etymology of the term will aid in comprehending the concept of authenticity (Varga, 2014).

According to Kierkegaard, human authenticity arises from accepting internal passions, individual existence and adhering to them faithfully. Kierkegaard advocates for individuals to recognize and express their true selves, emphasizing that this internal journey helps one confront oneself and find an authentic lifestyle. Authenticity emerges in the process of questioning and making individual choices, where individuals critically scrutinize societal norms and choose what aligns with their values (Varga, 2014).

Heidegger's concept of authenticity aligns with Kierkegaard's thoughts. Both philosophers define the individual's relationship with authenticity independently of societal norms and external influences. Heidegger's concept of 'Dasein,' translatable as "being" or 'existence,' holds significance. In Heidegger's philosophy of existence, 'Dasein' is used to express the existential condition of human beings. 'Dasein' represents beings capable of contemplating themselves, making sense of their existence, and establishing a relationship with the world. It symbolizes the unique quality of beings with the capacity to recognize and understand their own existence. 'Dasein' suggests the potential for individuals to reach true authenticity by questioning their existence (Varga, 2014).

Chronologically, authenticity in Western philosophy is divided into Rousseau's Romantic authenticity and the Existentialist authenticity, encompassing critical thinkers like Nietzsche, Camus, and Sartre. The concept of self-actualization, discussed earlier, is also momentous in contemporary literature regarding authenticity. (Bialystok, 2014, 274). First, authenticity carries along the meaning

of the word "original." This meaning indicates a historical context. Lauren Bialystok, in her article titled "Authenticity and the Limits of Philosophy" from 2014, illustrates this point with the example of a restaurant. If a restaurant is decorated in a style consistent with the 1950s and *was* opened in the 1950s, it would be considered authentic. In this case, the restaurant's originality requires a historical past and is directly related to the concept of authenticity. However, the same cannot be said for a restaurant opened in the 1990s designed to evoke the atmosphere of the 1950s. In this case, it can be stated that being authentic is associated with the "original" meaning, implying that something must have a certain historical background to be authentic. For instance, no one questions whether a restaurant opened in 2013 is authentic (2014, p. 275). In the context of music, musicians aiming for authenticity may draw inspiration from specific musical periods, adopting styles and elements that resonate with a bygone era. For instance, a musician who decorates their sound with elements reminiscent of the 1960s might be considered authentic in capturing the essence of that time. This connection to historical roots provides a foundation for authenticity, the perspective that authenticity requires a certain historical background. However, the challenge arises when considering musicians who emerge in more recent times but seek to evoke the atmosphere of earlier decades. The authenticity of such endeavors is often questioned, as they lack the direct historical connection that characterized the original movements. This dilemma around whether a restaurant opened in the 1990s, designed to mimic the 1950s, can authentically capture the spirit of that era is also found in the music industry, where authenticity becomes a negotiation between paying homage to musical traditions and innovating within contemporary sounds. Musicians have to think about the questions of originality and historical legitimacy as they create music that resonates with authenticity. Whether it's an artist reviving a classic genre or experimenting with novel fusions, the historical perspective of authenticity serves as a differentiating lens through which the creative process in music is evaluated and understood.

In the second sense, authenticity points to the concept of “genuine," contrasting with the "fake." In this sense, authenticity signifies the reality of something.

Bialystok provides examples of Chinese meals and pearls to illustrate this concept. A Chinese dish is considered authentic when its ingredients and recipe are prepared using only materials and methods used in China. In this case, to be considered authentic, something must be real in terms of its sources and content. Similarly, a pearl is only considered genuine if it is found inside a seashell. However, there are also inauthentic imitations, such as American-Chinese dishes or plastic pearls. In this context, authenticity is related to reality, and for something to be authentic, it must be real in terms of sources and content (2014, p. 276). The second sense of authenticity, denoting the contrast between "genuine" and "fake," also holds distinctions for artists, especially in the era of discussions surrounding AI-generated art and the potential for artificial entities to mimic authenticity. For artists, staying authentic in the face of technological advancements like AI-generated art poses a unique challenge. The authenticity of an art piece is often tied to the realness of its creation process, the sincerity of emotions conveyed, and the genuine expression of the artist. AI-generated art, while showcasing cutting-edge capabilities, often spawns questions about the authenticity of its emotional depth and the true aspect of creativity behind it.

Discussing this understanding of authenticity in regard to music specifically, it’s clear that musicians who utilize AI-related or more digitized elements in their work aim to balance between innovation and preserving the authenticity of human expression. Discussions around the potential "fakeness" of AI-generated music reflect concerns about whether these creations can genuinely capture the emotional nuances, personal experiences and unique artistic perspectives that define authentic human-made music. Furthermore, the concept of authenticity also extends to discussions around sampling in music. While sampling involves incorporating pre-existing sound recordings into a new composition, questions of authenticity arise concerning the acknowledgment of sources and the transformative nature of the new creation. Musicians engaging in sampling must navigate the fine line between honoring the original work and infusing their authenticity into the reinterpretation.

In its third meaning, authenticity is related to individuality. In this sense, authenticity means "honesty," "being genuine," or "reality." According to Bialystok, when we describe a person as authentic, we express that there is harmony between their actions and who they are. For a person to be authentic, they must show themselves as they are and not behave like someone else. For example, for a restaurant to be considered original, its structure and style must be in harmony with the era in which it was built. Similarly, for a person to be authentic, there must be harmony between their actions and identity (Bialystok, 2014, p. 278). The third facet of authenticity, as described by Bialystok, individuality and honesty, is perhaps the most important for the musician's experience and the music production processes. For musicians, authenticity becomes a guiding beacon in a landscape where artistic identity can be influenced by external pressures. The journey of crafting music involves not only technical prowess but also the authentic expression of one's emotions, experiences, and perspectives. In this context, the concept of authenticity aligns with the musician's commitment to being true to themselves amidst the dynamic nature of the music industry. The authenticity of a musician's work extends beyond the composition phase and permeates every aspect of the production process. During their creative processes, musicians face many decisions that can either enhance or compromise the authenticity of their musical expression; therefore, with each decision, they risk facing criticism and alienating their audiences. As previously mentioned, the real challenge lies in leveraging modern technology without diluting the personal touch and genuine emotion that defines an authentic musical piece. Besides the means of production, the pressure to conform to popular trends may clash with the desire to remain true to one's unique sound and creative instincts. Consideration of commercial viability and artistic authenticity becomes the primary complication for musicians navigating the music industry. In this context, this understanding of authenticity as a concept in music stresses the importance of musicians embracing their individuality, maintaining honesty in their creative pursuits, and presenting a genuine reflection of who they are. Being an authentic musician involves not only skillful composition

and production but also an ongoing dedication to self-expression and staying true to the core of their artistic identity.

Another concept that helps describe authenticity in the context of music is ‘aura,’ as defined by Walter Benjamin (1935/2008) in “The Work of Art in the Age of Mechanical Reproduction.” According to Benjamin, mechanical reproduction methods such as photography and film enable the mass production and distribution of works of art. While this democratizes art, it also jeopardizes the uniqueness, or what Benjamin termed as the "aura," of the artwork (1935/2008). Reproductions do not carry this "aura" and easily reach the masses. Benjamin suggests that the loss of the "aura" in reproduced works has both positive and negative consequences. On one hand, it breaks down elitist barriers associated with art, democratizing it. On the other hand, it diminishes the authenticity and originality of the artwork, weakening its cultural and historical significance. Benjamin argues that with the diminishing control of the artist over the final product, the creative act itself can undergo a transformation in the age of mechanical reproduction (1935/2008). While this understanding of aura does correlate closely with Bialystok’s aforementioned concepts of authenticity, the questioning of authenticity in the age of mechanical reproduction also finds a parallel in the realm of music, especially concerning contemporary musicians and their creative processes. With the advent of digital technologies and the ability to replicate and distribute music widely, musicians face challenges akin to those discussed by Benjamin (1935/2008). The ease of access to digital platforms and tools allows for the rapid production and dissemination of musical content, blurring authenticity in the process. For musicians, the question of authenticity becomes the main deciding point for the choices they make in crafting their sound. The use of digital tools, effects, and the ability to manipulate recordings raises questions about the authenticity of the musical experience. The tension between the democratization of music production and the potential loss of the "aura" of a live, unique performance mirrors the dilemmas posed by Benjamin in the realm of visual art. In navigating this landscape, musicians grapple with maintaining their creative output in an age of endless reproduction and no actual original. Whether it involves embracing digital tools as a legitimate form of artistic

expression or resisting the potential dilution of originality, musicians find themselves at the intersection of technological progress and artistic integrity. The discourse on authenticity in music, much like Benjamin's exploration in photography, accentuates the evolving nature of creativity and authenticity in the face of advancing technologies and the constantly changing interior dynamics of audience access.

1.2. MUSIC INDUSTRY

Retrospectively looking, the history of music as an industry could be described as anything but stagnant. Being an art form as old as human history itself, the industrialization of music has gone through many changes throughout time. However, until the invention of the printing press and, later, phonograph technologies in the 19th century, commercialization within the music industry revolved mostly around patronage systems. Music during these earlier periods was an abstract product, not yet acknowledged as a product that could be bought and sold, and therefore was funded by the nobility arbitrarily (Attali, 1977/2017, p. 52). This period proves that at one point in time, music was appreciated and valued for its artistic and social worth and not the value it holds in the corporate world. In addition, the notation systems in use up to approximately the 12th century were devoid of any standard units of measurement, and the notations used were primarily intended for reproduction of a work rather than its complete documentation (Burkholder et al. , 2014). It is also evident that in the early periods of music documentation, less emphasis was placed on the provision of exact scores and notations with the recreation of musical pieces, but more on passing on the essence of music from one generation to another. In relation, one of the main ideas that Attali (1977/2017) employs in his analysis of music is the notion of ‘repetition. ‘ As he puts it, music is repetition, and repetition is the core of social and economic processes.

Later on, the availability of recorded music by the late 1800s altered the way people accessed music. Following the inception of sound recording technologies, specifically the phonoautograph developed by Éduard-Léon Scott de Martinville,

the first major advancement came in the form of the phonograph by Thomas Edison in 1877, which enabled the recording and the playing back of audio, which can be seen as the foundation of the modern music industry (Millard, 2005). The phonograph was followed by the gramophone record, which was developed by Emile Berliner. These innovations weren't primarily created because of a love for musical arts or scientific discovery but rather were driven by financial motives. This is also quite obvious in the works of Graham Bell, who also worked on refining the recording technologies of the time (Volta Laboratory Notes, as cited in Martland, 2013, p. 5). The beginnings of direct audio recording changed the way music was preserved entirely, as acoustic recordings offered the entire performance rather than just notation. By providing a direct representation of the artist's intent, these technologies also pioneered the current legal frameworks of licenses, copyrights, and royalties, ensuring regulation within the industry. Similarly to the ownership of music before recording, first recordings were also primarily produced for the wealthy, specifically for domestic use (Gronow, 2021). As aforementioned, financial motives grew, and the 1880s and the 1890s were full of fierce competition amongst the recently inaugurated recording industry, beginning between Edison and Bell and later including Columbia (Martland, 2013). The reason for the monopolization within the market was simple, as only a few major companies were controlling the patents for playback devices. This moment in history was also quite demanding of the artist, as producing multiple copies was difficult and rather costly. The artist had to either perform repeatedly or set up multiple recorders, leaving absolutely no room for any sort of error (Alexander, 1994, p. 115). Thus, it was only with the advent of the new mechanical technologies of recording in the nineteenth century that the commercialization of music was finally on par with other art mediums. As provided by Attali (1977/2017), the growth of music production during the 19th century and the production of music forms that are based on the concept of repetition are congruent with the standardization and mechanization of other industries. This correlation, which is in harmony with Benjamin's views in his essay mainly on photography, underlines the connection between the rhythm and structure of music and the industrial mechanisms that form the basis of

contemporary music culture (1935/2008). Following this, the statement made by Attali (1977/2017) can be viewed as an extension of this idea, stating that industrialization could become the means to transform the culture. The repetition of motifs in music, as well as the rather predictable structure of compositions, can be treated as related to monotonous work at a factory or mass production. The music industry in the 19th century is indicative of a change in the societal mindset of the times toward the values of order, control, and standardization in tune with the industrial revolution.

Following domestic competition, the recording companies pushed for international expansion. Gramophone in the U.K. and the U.S. company Victor started acquiring shares of the global market by dividing territories (Gronow, 1983, p. 57). During this era, the recording industry was capable of full mass production, as the U.S. production of phonographs soared from 345,000 units in 1909 to over 2.2 million in just ten years (Gronow, 1983, p. 59). The mainstream music distribution in the U.S. was mostly covered by the Tin Pan Alley, which was a collection of publishers (Tschmuck, 2012, p. 43). This period was known for the exploitation of works without paying royalties, as the legal framework for any sort of mechanical reproduction in music didn't exist yet. The first attempt was made with the Copyright Act of 1909, in which a 2¢ royalty was paid per recording. Afterwards, the ASCAP was established to assure the rights of composers and publishers (Tschmuck, 2012, p. 44). Perhaps the most important development of this era was the establishment of the International Federation of the Phonographic Industry (IFPI) in 1933. The main concern of the establishment was radio, as the rise of radio devastated record sales, shifting profits away from the recording industry itself (Tschmuck, 2012, p. 67). In regard to radio, it is definitely true that it was a blessing for the public, exponentially increasing the masses' access to music; however, it has always been a double-edged sword. Radio did democratize music consumption by making it widely available, allowing artists, perhaps for the first time, to go beyond geographical barriers and physical record sales. However, without a proper legal framework, radio also became a curse, as it allowed broadcasters to freely air music without compensating neither

the artist or the record company. Therefore, although not without its faults, the establishment of organizations like the IFPI was crucial in making sure that all of the shareholders within the industry were properly paid.

Later on, the post-war music industry was once again captivated by the allures of monopoly. This inclination towards monopolization was occurring due to the post-war economy being mostly driven by the ideological and technological deviations of the era. The concentration of power due to monopolies is in line with Attali's argument on how controlling the tools of production allows for the manipulation of culture by certain parties (1977/2017, p. 7). Four major companies dominated this period: RCA-Victor, Capitol, CBS-Columbia, and Decca. Radio and the record companies had a symbiotic relationship during this era, and while TV challenged radio's dominance, changes such as radios with more portability kept radio still in tune with the demands of the general consumer (Tschmuck, 2012, p. 110). Additionally, the commercialization of music thanks to the new recording formats and the emergence of industrialization within music proves to a far greater degree how such repetitive patterns have been inscribed in the production and the listening of music. It is consequently possible to see the conception of the three-minute pop song as a reflection of industrial logic in the cultural sphere, indicating that the beats of music and society are concomitant.

The ways that popular music is distributed have changed over time due to social and technological changes. Up until the 1940s, the hit-single-focused industry was shaped by 78 RPM records, which were restricted to short recordings. Full albums were made possible by Columbia Records' 1948 invention of the 12-inch LP, which was first utilized for classical music (Columbia Records, 1949; as cited in Ateser, 2022). Albums, which reflected the musical, artistic, and political themes of the countercultural movement, did not become popular until the 1960s. The album format was further cemented as a significant cultural artifact with the rise of concept albums, which combined artistic packaging with coherent narratives (Shuker, 2002, p. 5-6; as cited in Ateser, 2022). These developments not only enhanced the quality of the recorded music but also were able to bring it

more within the reach of the public. Subsequent to these technologies, the physical format of music in the twentieth century began to diversify, while the structure and the basic ways of production, distribution, and consumption within the music industry itself stayed similar to that of the past. (Graham et al. , 2004; Moyon and Lecocq, 2014; as cited in Binark et al., 2023).

Because of manufacturing costs, singles continued to be popular even after CDs took over as the major format in the 1990s. This allowed them to be accessed by younger audiences and provided producers with low-risk market testing opportunities (Shuker, 2002, p. 271). However, because of their larger price margins, albums continued to be the industry's main source of income (Burgess, 2014, p. 111). Labels favored a few successful songs while packing albums with "filler tracks," which resulted in a drop in overall album quality (Burgess, 2014, p. 125). Due to the growth of the internet and digital networks, as well as economic considerations, consumer interest in singles had returned by the late 1990s. This change radically altered how people listened to music and created unexpected new distribution environments that were out of the major industry players' control. As digital distribution emerged, the industry found itself further fragmented on the matters of controlling the channels of distribution. The new distribution formats allowed listeners to access each individual song rather than full albums. The rise of the MP3 format, peer-to-peer sharing, and streaming services are the defining factors of the modern music industry, as explored in the upcoming chapters.

1.2.1. Digital Distribution

Although digital forms of audio opened the floodgates for piracy, illegal duplication of music was nothing new for the industry; just the extent that it was performed was getting extreme by this point. Music piracy had its roots all the way back in the 1930's, way before digitalization (Cummings, 2013, p. 7). One important point of discussion is that with each change in physical format, copying became easier for the end-user. This became especially prevalent with cassette systems, as later on during the format's lifespan, most players also had capabilities to record or even straight copy. The main issue with the earlier practices of piracy was that

each subsequent copy from the original had at least some quality loss occurring, which digitalization practically solved. Following cassettes, CD's were able to be copied with very basic computers and free (or ironically, pirated) software. Although illegal, because of the economical and methodical ease of the copying business, unlicensed CD copying and selling had become quite the business by the 1990s. By the 1990s, the advancements in computers and the internet itself began spreading worldwide. More than a third of the U.S. households had access to a personal computer in 1997, and by 1999, the statistic had already surpassed half of the population (Statista, 2010). The phenomenon of internet and personal computers followed a similar pattern worldwide as the number of internet users had increased to near 300 million in the same timespan (Internet Live Stats, 2024). Fundamentally, music in digital format was already available and in circulation thanks to compact disks in this era, yet the file sizes for audio files were too large for the slow download speeds provided by early dial-up connections, especially for full albums. Therefore, audio sharing via the internet was not yet entirely feasible for the common listener. This all changed because of the new digital audio formats, specifically the MP3. The MP3 is an abbreviation that stands for MPEG-1 Audio Layer 3; the format itself was developed by the German Fraunhofer Society in Munich. Thanks to the efforts of the team's leader, Karlheinz Brandenburg, the MP3 format was able to provide up to a 95% reduction in file sizes while sounding almost the same to the common listener when compared to the uncompressed file itself. MP3 uses a lossy compression algorithm that removes the parts of sounds that are not hearable by the average human ear. The technique is called auditory masking, which describes that if two sounds close in pitch are played, the louder one ends up 'masking' the softer one (Zwicker & Fastl, 2013). Essentially, the algorithm perpetuated by the encoder saves space by storing parts that are harder to hear in fewer bits. This practice was combined with other compression steps to create never-before-seen margins in file compression, which was further refined by Karlheinz Brandenburg with the MP3 format (Brandenburg, 1999).

The MP3 file format greatly impacted music distribution since it was now easier than ever to share music files via the internet (Witt, 2020). The emergence of the new millennium could be considered as one of the most critical periods in the music industry, primarily because of the MP3. This period was defined by the piracy practices through such platforms as Napster, LimeWire, and PirateBay which disrupted the business models existing up until this point (Witt, 2020). Napster, which was launched in the year 1999 as a peer-to-peer file-sharing service, was one of the first digital services that enabled users to share and download music files without any restrictions. This also paved the way to increased music piracy, and at the same time, it showed the increasing demand for digital music. The legal battles that surrounded Napster and its place in music piracy raised the questions of copyright, intellectual property, and digital rights within the industry. Among the most striking examples of this legal struggle one can mention the case of Metallica vs. Napster from the year 2000. Napster tried to safeguard itself by providing several compromises; however, the company had to shut down eventually. Napster was a defining event in the availability of music and a radical shift in the way people get their music. At the same time, the platform also created suboptimal conditions under which the musicians themselves could not make money. However, the way of music delivery to the final consumer, which was started by Napster, still has a significant impact today. To counter these problems, the music industry started changing its focus toward the legal online distribution of music. The practices that began with Napster, in which the users could listen to a vast ocean of music without paying for it, resemble the present reality, where users can gain access to a colossal music library for a monthly fee that is usually even less than the price of one album.

After Napster and peer-to-peer file sharing in the early 2000s, the next big change in the legal forms of digital music distribution is usually attributed to Apple, both hardware and software-wise. The release of the iPod with the “1,000 songs in your pocket” slogan created ease of access for passive and portable listening experiences with a user-friendly device (Griggs, 2013). Unlike portable cassette and CD players of the past, Apple’s new hardware allowed multiple digital audio

formats. Added on top of the ease of use, relative affordability, and trademark sleek design of Apple, the device was a new milestone for music. Later iterations of the iPod included the iPod Shuffle, which did not have a screen, encouraging a more passive form of listening due to randomized playback being a main feature. The Shuffle also came with a clip, popularizing wearable music devices rather than carried ones. On the software end, Apple also launched the iTunes Music Store in 2003 (Griggs, 2013). The 99 cents per song campaign revived a song-based listening experience reminiscent of the pre-album era, reducing the perceived value of the album as a format in the eyes of the end user. Overall, it can be concluded that Apple's innovations within the music industry aligns with Hesmondhalgh's arguments on how digitalization has reinforced a more passive approach to music (2021).

Apple's success on digital music distribution was followed by other services, providing ease of access and legal alternatives to the rampant piracy problem. An earlier example would be the humble beginnings of YouTube. Before being the media powerhouse today, it was initially a haven for the small-time musician to acquire popularity. Although the royalty system hadn't been established until 2007, the space created for musician visibility was still very important for the industry in general. On the other side of the coin, the gap in monetization meant that, for nearly two years, music videos uploaded by users generated significant audience traffic—and considerable profit for YouTube—without providing direct financial returns to the artists, labels, or other rights holders. Even though iTunes and comparable platforms assisted in recovering a portion of the money that would have been lost to piracy, the worldwide music business's earnings declined by almost 50% between 2001 and 2014, indicating a severe economic downturn in the industry (IFPI, 2021).

Currently, streaming dominates the revenue share of the music industry worldwide, which proves the industry's ability to evolve and adapt to the technological advancements and consumer behavior changes (IFPI, 2024). Digital music files are easily produced, duplicated, and disseminated, which

changed the distribution and gave independent artists and small labels the ability to share their music with the world without the help of major production and distribution companies. The introduction of the online platforms and peer-to-peer networks altered the way music is discovered and distributed, thus eliminating the restrictions that had been put in place due to geographical and institutional barriers. Although the question of visibility among the broad sea of content still remains up for debate, because, as mentioned previously, the major stakeholders of the industry's past have also adapted to the new technologies and are definitely still in power today.

The contemporary music industry still is mostly dominated by major record labels. The major players in the market include Universal Music Group, Sony Music Entertainment and Warner Music Group. These conglomerates dominate a large share of the international music market and coordinate the creation, promotion, and sale of music works by many musicians (Passman, 2019). For example, record companies are investing $7.1 billion annually in A&R and marketing alone (IFPI, 2024). The current stakeholders in digital music consumption include Spotify, Apple Music, and YouTube Music. As of 2023, there are more than 667 million paid music subscription users shared among all platforms (IFPI, 2024). Such services provide users with a huge selection of music that can be accessed through paying a monthly fee; this approach has revolutionized the business model of the industry. Over the last few years, the international music market has expanded, mainly with the help of streaming services. As reported by the IFPI (2024) , the global recorded music market was worth $28.6 billion in 2023, with a 10.2% growth annually. This growth is mainly due to the increase in paid streaming subscriptions that is now the biggest revenue source for the industry. The economic effect of the music industry is not restricted to the sales of subscriptions. Ticket sales, merchandise, royalties from music usage, and even physical media today are also major sources of income for the industry. Although 67.3% of the industry's income was generated through streaming in 2023, physical media still consisted of 17.8% of the total revenue (IFPI, 2024).

In the beginning, the change to streaming had opened up music to the masses but at the same time raised questions on payment for artists. Most of the streaming services compensate artists for their work in cents per stream, which causes worries about the future income of musicians, and especially those who are independent (Mulligan, 2021). Another trend that can be observed is the growing role of data analysis in the sphere of music. Such services as Spotify or Apple Music employ advanced methods of data analysis to study the audience's behavior and inform artists and labels. These analytics are used to plan the marketing strategies, analyze trends, and sometimes even dictate the creative processes (IFPI, 2024). In addition, social networking sites are now widely used for music marketing and communicating with the audience. It is through such social media applications as Instagram, TikTok, and YouTube that artists get to their fans across the globe, build their brands, and monetize their content through ads and sponsored posts. For instance, viral challenges and user-generated content on TikTok have been significant in promoting songs to the charts (Herrman, 2022).

In line with the developments in digital distribution, the production end of the industry saw similar developments throughout time due to digitalization. Similar to the accessibility of low-cost streaming for users, the modern musician also acquired a never-before-seen ease of access to music production tools, both in hardware and software. The powerful yet affordable tools created a democratization of production where anyone with computer access could create music, publish it, and theoretically create the next radio hit. Beginnings from the earlier synthesizer and production-focused audio protocols such as Musical Instrument Digital Interface (MIDI) to the modern Digital Audio Workstations (DAW) and Virtual Studio Technologies (VST) will be discussed in the upcoming chapter to provide a better understanding regarding the impact of the generative AI technologies of today.

1.2.2. Digital Production

The foundations for the computer-based properly digital forms of music can be traced back to much earlier innovations, as the first instrument to be given the attribute of “electromechanical” would be Cahill’s Telharmonium in the late 19th century (Rhea & Weidenaar,1988). Continuing this trend, another instrument of the same era, Theremin was played without physical contact; the instrument can be seen as a pioneer of synthetic audio creation. By the halfway point of the 20th century, first examples of sampling would be developed, manipulating recorded sounds on tape allowed for entirely new compositions, which again, in line with the theremin, is laying the groundwork for music production techniques of the future. 1960’s would see the first instances of analog synthesizers with popularity surging from the Moog synthesizer (Moog, 2025). Tape-based studios would also emerge during this time period, giving birth to proper electronic music. Finally allowing electronic music instruments communications with computers and each other (Smith & Wood, 1981). The music industry would never be the same again. The landmark synthesizer of the era would be the legendary Yamaha DX7. The revolution happening during this era inspired a wave of electronic experimentation, primarily revolving around rock bands of the era (Pinch & Trocco, 2004). However, one prominent issue was that the analog synthesizers back then were often monophonic, resulting in unstable stage setups (Holmes, 2020). In the 1970’s microprocessors were beginning to lower in cost and the integrated circuits were removing the inconsistencies of the past from the equation, therefore obviating the more manual forms of retuning. However, as each company offered different yet distinct design standards, the synthesizers themselves were plagued with compatibility issues. For the common musician of this era, being capable of juggling different synthesizers and gear, each with different operation requirements was becoming a must (Manning, 2013). Partially in response to this problem, alongside other obstacles that were created due to non-standardization, Dave Smith from Sequential Circuits, Ikutaro Kakehashi from Roland and Tom Oberheim from Oberheim Electronics began discussions of a “Universal Synthesizer Interface” (Smith & Wood, 1981). Taking inspiration from Local Area Network (LAN) protocols of the computer industry, the

discussions soon evolved into what would be known as MIDI. Joined by other industry giants such as Yamaha, Korg and Kawai, MIDI 1.0 Detailed Specifications were released to the public in August 1983, where a single keyboard or sequencer could control multiple instruments at once, both simplifying the capabilities required for performing whilst also providing never before seen efficiency for studio workflows (MIDI, 2024). Afterwards, the MIDI Manufacturers Association (MMA) and the Japan MIDI Standards Committee was established to further reinforce the standardization provided by the MIDI protocol (MIDI, 2024). Many collaborations and iterations later, MIDI had finally streamlined the digital audio workspace by establishing a universal standard to pave the way for the future of modern digital music production. The wave of digital technology would finally engulf the industry during the 1980's with the development of the MIDI standard. MIDI in the simplest way possible, can be defined as a set of rules that define how the data representing musical performance – which notes are played, for how long, and how hard – is transmitted. While the audio signals contain actual sound, the MIDI is an instruction that defines how a particular piece of music should be performed.

The spread of the MIDI displayed the need for further standardization within the industry, particularly for integrating recording, editing and mixing into a singular, compact computing environment. The desire to both standardize and streamline every stage of audio production was what gave birth to the modern DAW. The term DAW contemporarily often refers to software alone, however traditional computer-based DAWs typically include an audio interface, a computer, software and a user input device (Bianchi, et al. 2022). The first attempts at a DAW were during the same era as the development of the MIDI. Due to the costs of storage and slow processing powers of the computers back then, creating a proper workstation was full of complications (Kefauver & Patschke, 2007). After the tape recorders of the 70s, particularly the Soundstream developed in 1977 is often cited as the first DAW. Began it's life as a "Digital Editing System", the Soundstream provided both audio and video feedback. By also being compatible with analog tapes, the system allowed edits and even basic crossfades to be deposited digitally on the hard drive.

The 1980s, thanks to personal computers with increased processing power such as the Macintosh and the Atari ST saw sound engineers using software tools such as Microdeal's Replay Professional, Sound Tools, Sound Designer and Macromedia's Soundedit. These software primarily allowed for two-track audio work. By 1989, Digidesign released the influential DAW software Pro Tools, which was the primary catalyst for the change within professional studios changing from conventional analog methods to digital workflows (Théberge, 2004). The Apple Mac and the Pro Tools combo beginning in the early 90s stood the test of time, as it remains the industry standard for many recording studios to this very day. Pro Tools was followed by similar software for different computers at the time, such as Steinberg's Cubase Audio for the Atari Falcon and other DAW's for the Windows operating system.

As both the software and the hardware end of music became more and more affordable for the average population, the phenomenon of the "home studio" began to emerge. The production end of the industry, once dominated by professional studio monopolies with expensive high-fidelity recording and mixing equipment, was changing with the humble personal computer and the accompanying DAW software. Although the specific configurations of hardware and software changed, most contemporary DAW's shared a core framework from an user interface standpoint. These developments democratized the industry and theoretically allowed anyone, regardless of profession to produce commercial level music (Zagorski-Thomas, 2014). Ever since the computer became a common household appliance, DAWs are indispensable in music production, providing a number of functionalities that were previously available only in professional recording studios. Some of the most used DAWs today are Ableton Live, Logic Pro, Pro Tools, FL Studio. These programs enable the users to capture live instruments, load samples, sequence MIDI, process sounds, and mix down tracks in one workspace. Music production software has democratized the process of creating professional-sounding music by removing the barriers of costly hardware and experienced personnel. According to Théberge (2012), "DAWs have democratized music production, enabling independent musicians and producers to create professional-quality recordings from their home studios."

Musicians can also revise their work and make changes to the sound of the music and make changes without having to constantly re-record each part. This has streamlined the creative process and enabled artists to produce music more quickly and efficiently.

This aspect of democratization was followed by the VST format, created by Steinberg in 1996. The VST plug-in technology uses digital signal processing to simulate traditional hardware and instrument setups (Steinberg, 2024). The VST standard allows the music producer a vast array of sounds, each of which would've required their own instrument to be produced once. The VST plug-ins are usually separated into three distinct types. One would be the VSTi, which stands for VST instruments. The VSTi allows for real-time audio generation via virtual synthesizers and samplers, being capable of imitating the sound of real analog synthesizers and instruments via software alone. There are also VST effects that allow for real-time audio processing and editing, and finally VST MIDI effects, which allow for the plugin to process MIDI inputs such as transposition and even transfer MIDI data to other VST instruments for further processing. Although the VST format itself is proprietary, Steinberg does allow third parties to create their own VST plug-ins, either free or licensed by Steinberg for commercial sale (Steinberg, 2024). Both by reducing the production costs of physical instruments and effect units and by providing a standardized interface for developer and musician alike, the VST format has been invaluable for the democratization of music production, allowing the hobby musician access to high-quality tools for a low price or via allowing endless tonal possibilities with a single click for the professional producer. From its inception, the VST format itself has seen multiple iterations, updates that address optimization and compatibility with newer hardware and more. As the technology grows, machine learning and artificial intelligence technologies have also been integrated within the VST format. There are plugins and software that are powered by artificial intelligence that can help in coming up with melodies, harmonizing some tracks and even coming up with new ideas for music. For instance, the MIDI data can be used by the AI algorithms to generate chord progressions or even compose an entire song which can be quite beneficial for musicians (Briot et al, 2020). An example would

be the DDSP-VST, which allows cross platform real-time neural audio synthesis over pretty much any DAW (Jurek et al., 2022).

CHAPTER 2

AI IN MUSIC: ALGORITHMIC CURATION & GENERATIVE AI

The inception of artificial intelligence in the field of music starts with the problem of transcriptions: how does one record a performance into the exact musical notations as it is played? In order to create a solution, German engineers J.F. Unger and J. Hohlfield first implemented Engramelle's schematic of a piano roll, which is a method of automatically recording note timings and durations, allowing them to be transcribed to proper musical notation in 1752 (Roads, 1985). The parallels of this application can be heard in the ILLIAC I (Illinois Automatic Computer) of the 1950s, about two centuries later. The computer was able to generate the first completely computer-generated piece of music, thanks to the labor of composer Lejaren Hiller and mathematician Leonard Isaacson. (Miranda, 2021) Being the very crux of algorithmic composition, besides foreshadowing the rise of generative AI that would happen a century later, ILLIAC also paved the way for new inquiries regarding AI and music of that era.

While Russian researcher Rudolf Zaripov published the first paper on the subject of algorithmic music in 1960 (Zaripov, 1960), inventor Ray Kurzweil was able to develop new software that could recognize musical patterns and synthesize new compositions (Kirn, 2020). Evolving evermore, the advancements of the technology were marked by the emergence of the Kansei Music System by Yamaha in 1983, which utilized and processed musical information through AI techniques to attempt to resolve the transcription problem once and for all (Katayose & Inokuchi, 1989). Even though it struggled with complex melodies, near perfection within musical transcription can still prove difficult, even with the technologies of today.

In the next decade, EMI was created, standing for Experiments in Musical Intelligence. The AI program was able to outperform a human at the task of composing a musical piece, specializing in imitating the works and style of Johann Sebastian Bach (Johnson, 1997). Similar to the well-known defeat of

Gary Kasparov against IBM Blue at chess, this event marks a milestone for the intersection of AI and music, in which machine surpasses man. Romanticized tales of folklore from the past often foretell a different fortune regarding the battle of humans against automata. The tales, such as that of John Henry, an African-American railroad worker who competed against a steam-powered rock drill and won, often doesn't reflect the contemporary reality, in which such battles are heavily favored towards the machine. A most recent example of this clash would be in the world of video games, in which OpenAI's artificial intelligence 'Five' was able to beat the world champion team OG in Dota 2, an incredibly complex game (OpenAI, 2019). Since EMI had a comparable impact in the field of music, further developments were inevitable.

The improvements marked by EMI would later culminate in the AI algorithm named 'Emily Howell,' which was much more advanced and capable of independent music creation, publishing its first album, From Darkness, Light, in 2009. (Leach, 2009) Later in 2010, Iamus, an AI system based at the Universidad de Málaga, produced its first original contemporary classical piece, "Iamus' Opus 1," in 2010. Iamus demonstrated the AI's ability to generate original music in various styles (Smith, 2013). Today, the field continues to develop rapidly with progress in generative AI technologies. AI Models today are capable of creating complete and complex compositions and lyrics from simple prompts. Examples would include Suno AI, which was released in 2023, and later Udio in 2024.

Within the context of this thesis, the most important methods of AI used in the music industry today would be algorithmic curation and generative AI. Aforementioned examples of generative AI technologies such as Suno & Udio will be examined in the upcoming chapters, after a thorough examination of cultural intermediaries and algorithmic curation. This is to create the distinction between the two different AI technologies, as each of them creates different opportunities and different obstacles for musicians, listeners, and researchers. Connecting to cultural intermediaries, the outlook on what art curation *was* and how it *is* now is important, as the chronology of the curation does allow chances of better empathy with both the musician and the curator.

2.1. CULTURAL INTERMEDIARIES

Introduced by Pierre Bourdieu in his book titled *Distinction* in 1984, the term cultural intermediaries is often associated with a new middle-class faction that developed in the middle of the 20th century (as cited in Negus, 2002). In accordance with Bourdieu's analysis, which is based mostly on work and consumption patterns in France, it is possible to align the term with other concepts, such as service class or knowledge class (Bourdieu, 1984). Cultural intermediaries are generally described as working in roles that relate to “presentation and representation,” delivering goods and services mostly symbolic (Bourdieu, 1984, p. 359). Distinguishing themselves from the old bourgeoisie by having new disparate identities of class, traditional distinctions such as high art and pop culture are also blurred among the workers of the faction. In many areas ranging from media and arts to marketing and advertising, the convergence happening to the divisions of the past has become more and more integral to the foundations of contemporary capitalism. This sentiment is paralleled by Featherstone, who states that the class of cultural intermediaries is a blend of the middle class and the working class (1991, as cited in Negus, 2002)

The firmness of a cultural intermediary often lies in emphasizing the individual that acts as a bridge between those that create and those that consume; expansively speaking, a line between production and consumption parts of an industry (Negus, 2002). The concept clashes heavily with the usually perceived Fordist model of cultural production, resulting in a departure from an assembly line straight from the artist to the consumer (Hirsch, 1972; Peterson, 1976; Ryan & Peterson, 1982). Opposingly, cultural intermediaries employ a closer relationship to both sides of the industry, enforcing a better relationship while changing the traditional approaches, which results in encouraging a cultural perspective that reinforces economical habits rather than constraining them. This process accentuates what Bourdieu proposes as the cultural economy of social life (Negus, 2002).

It’s possible to follow up on the aforementioned ideas with Becker’s concepts from Art Worlds (1982). As Becker reinforces the idea of artistic production as intrinsically collective, putting artists at the very center and providing every other industry stakeholder a supportive role, he starts forming the very description of an “art world,” a network that prioritizes collaboration above all else to consistently create artistic output (Becker, 1982, p. 34). Despite the fact that Becker generally inquires for a more economical perspective in which he identifies divisions of labor, most of the sentiments appear to be rooted in Bourdieu’s concept of cultural intermediaries. Apart from their roles as a bridge between the creator and the audience, the concept is expanded upon, as cultural intermediaries also act as promoters, producers, and managers. As curating taste often means managing ambivalence in an industry, an intermediary clears the fog of the unknown from audiences comfortably confused (Foster et al., 2011). The collectivity of cultural production is altered by the locations. The collective character of cultural production is often strongly impacted by the spaces in which it takes place. Scholars who study cultural intermediaries observe that certain places, like fashion workshops, movie sets, or recording studios, influence collaborative dynamics within creative industries, such as traditional recording studios, which bring together composers, performers, producers, engineers, and other contributors, creating a collective environment that encourages experimentation and creativity (Scott, 2000). These studios are microcosms of broader creative fields that encompass industrial activities and social interactions within specific geographic areas, amplifying the collective capacities of co-located actors—producers, intermediaries, firms, and institutions like universities—to produce new ideas and products (Scott, 2006). However, starting minuscule and becoming essential in any industry deemed creative, even if explored in detail, specifics of the cultural intermediary remain quite ambiguous, as most studies need to be confined in spatiality in order to be conducted, making the individuals under the umbrella of cultural intermediary unavailable for examination without the burden of context (Nixon & Du Gay, 2002; Lingo & O'Mahony, 2010; Foster & Ocejo, 2013).

As digital forms of distribution and production gained prominence, the interest in how intermediaries adapted has also increased. Digital platforms evidently allow the artist to bypass the classic, traditional means of intermediation; now the creator has a very realistic instrument to reach the consumer directly. Whether through “disintermediation” or a straightforward disuse of traditional cultural intermediaries, the impact of digitalization often remains foggy. As digital technologies keep changing mediums, new business models and new ways of intermediation are also appearing (Foster & Ocejo, 2013). The availability of music streaming services such as Spotify has shown that the music industry is slowly moving from ownership to usage. This shift from owning music to streaming provides the consumers with the easiest and most diverse way of listening to music. Listeners have an opportunity to search for music of different styles and eras and listen to it without having to buy complete albums or even songs. Features like playlists and recommendations have become the key components of the modern music-listening experience. On the surface, one can observe that these features are encouraging users to search for more music and get more involved with it, but to understand how they affect the industry, it is necessary to use the concept of the cultural intermediaries. As agents who, owing to their social and cultural capital, mediate the interactions between the processes of cultural production and consumption (2021; as cited in Binark et al., 2023, p. 113). Bourdieu’s theory of cultural intermediaries is useful in explaining the trends in the development of cultural mediation and its current state, especially in the music industry. These agents of cultural production and consumption are, in a way, the link between the producers and the consumers. Traditionally, this function had been performed by human middlemen such as critics or representatives of record companies, who would select content according to their own taste and experience and thus manage the consumers’ choices. This change from human curation to algorithmic curation can be considered as a shift in the music industry’s cultural intermediation. In the present day, due to streaming becoming the primary mode of listening, the task of cultural intermediaries has been taken over by algorithms and artificial intelligence

applications. Thus, the analyzed services can be viewed as a ‘music intermediary’ and ‘cataloger’ coexisting with major record labels.

2.1.1. Platformization

The term “platformization” was first coined by Anne Helmond; describing the term as the rise of the platform as the dominant computational, infrastructural, and economic model of the web, she details how platforms extend their territories (2015). David Nieborg and Thomas Poell build upon the concept in their book Platforms and Cultural Production (2018). The term platformization refers to the changes in both the forms of distribution and the production in cultural mediums. Platforms such as YouTube and Spotify constantly restructure the means of cultural production; this goes beyond just the technological infrastructure of the platforms themselves. Since the logic of platforms primarily focuses on maximizing user engagement and monetizing the cultural production through data-driven advertising while leveraging algorithms to recommend personalized content for each user, these platforms themselves operate as intermediaries, positioning themselves between the creator and the audience (Nieborg & Poell, 2018). As Poell, Nieborg, and van Dijck argue, platformization affects economic, governmental, and cultural aspects at the same time, which establishes platforms as essential infrastructures of human activity (2018). This influence is especially common within creative industries, where platforms have disrupted the traditional methods of both cultural production and distribution. By offering a space where content is distributed, consumed, and curated simultaneously, these platforms not only became integral for the sustainability of cultural industries but also made themselves the primary arbiters of audience engagement and creative production. Platforms act as convergences of multiple systems and novel cultural practices while also centralizing and administering authority over the creation of cultural content (Langlois et al., 2009). Additionally, platformization reorganizes creative labor, giving cultural workers both opportunities and limitations (Nieborg & Poell, 2018). Platforms, on the one hand, make it possible for independent artists and smaller production companies to distribute their work without the help of conventional gatekeepers and provide them access to a worldwide audience.

However, this change also makes creators vulnerable to the algorithmic systems and platform policies that govern visibility, discoverability, and profitability. Because platform-driven measures like engagement rates, follower numbers, and ad revenue are subject to abrupt changes in platform algorithms or monetization policies, cultural producers frequently find their success inextricably linked to these data. As platform-driven factors increasingly determine what work is paid and made visible, this dependence limits creative agency and puts creators at serious financial risk. The datafication of cultural output is another aspect of platformization. Large volumes of user data are gathered by platforms in order to continuously improve ad placement and audience targeting, resulting in more individualized and data-driven user experiences. By centralizing important audience analytics within the platform, this change improves platforms' capacity to forecast and influence audience behavior. However, content creators frequently do not have access to these extensive data sets, which makes them reliant on the platforms for audience access and prevents them from making well-informed financial and creative decisions.

At the center of this algorithmic transformation, a critical aspect is how platforms have embedded themselves as intermediaries between creators and audiences. As platforms leverage data-driven algorithms to curate personalized experiences for each and every user, the algorithm often prioritizes content that maximizes engagement and therefore monetization, resulting in alterations in how audiences used to explore and utilize content (Prey, 2018). The cultural production dynamics are now more than ever inclined towards pandering to a single figure, the logic of platform algorithms, only because the algorithm is the primary dictator of visibility and success in today's cultural industries. This is a prominent part of the “platformization” process, where third-party tools of production are restructured to integrate with platform ecosystems as well (Helmond, 2015). Curatorial power of the platform extends beyond the listener and to each and every participant of the industry, from the artists themselves to those that partake in the creative process less directly by creating software and hardware to utilize as DAWs. The means of creating music has been streamlined in a sense similar to the way it is

consumed and published. From the ease of use provided to mobile users by Apple’s GarageBand to Ableton’s easy-to-use portable tools such as Move to today's instantly music-generating artificial intelligence applications, it has never been easier and faster to create music. The high-speed consumption supported by platforms demands a similar speed in production, and the musician often has to play catch-up just to stay relevant and competitive within the industry. Therefore, the means of production must also be capable of providing the same momentum to the artist.

As the playlists offer unprecedented exposure, the centralization of power comes along with it, further reinforcing the platform as the epicenter of the industry for musicians and listeners alike. The actual way to acquire visibility within platforms is opaque, and the artist has to quarrel with the curation space while competing for the limited slots on each playlist. The most hurtful outcome of this “algo-torial power,” which Bonini and Gandini (2019) describe as an amalgamation of human and algorithmic curation, is that the capability to place themselves in a playlist can be the deciding factor of an artist's success (Poell, Nieborg, & van Dijck, 2018).

All things considered, the idea of platformization emphasizes how traditional media infrastructures are giving way to platform-dominated cultural economies. The ways in which platforms essentially influence the creative, social, and economic facets of cultural creation, establishing them as ubiquitous social and economic infrastructures that actively influence modern culture rather than just being means of distribution. Digital platforms have become essential to cultural production through platformization, which has changed the labor, economics, and epistemology of cultural creation in the digital age in addition to the production process itself.

2.1.2. Algorithmic Curation

In their 2019 article, Bonini and Gandini discuss how the music industry underwent a dramatic change with the introduction of platforms as key gatekeepers, which radically changed how music is curated and accessed. They call this change the "Great Shift," starting with the 1999 debut of Napster, which ushered in a new era of music consumption that was not mediated. Bypassing conventional gatekeepers like radio programmers and music journalists, Napster enabled users to share and access a sizable, frequently unapproved library of digital music files (Hesmondhalgh & Meier, 2018). As listeners engaged with music outside of commercial radio's boundaries and moved away from the predictable audience engagement patterns that were once essential to the music industry's economic framework, this development paralleled analogous free or pirate radio movements in previous decades. According to Arvidsson and Bonini (2015, p. 2), the industry used to benefit greatly from audience predictability and stability, which enabled broadcasters to develop dependable consumer behaviors. Music consumption through blogs, independent web radio, and peer-to-peer (P2P) networks resisted commodification for a brief period. However, the rise of streaming platforms like Spotify and Apple Music reintroduced forms of mediation, effectively "re-intermediating" music consumption by channeling audiences into controlled digital environments. By 2014, file-sharing traffic had dropped from one-third to just 8% of total U.S. internet activity (Fiegerman, 2014), as listeners increasingly turned to subscription-based streaming services. By 2018, Spotify and Apple Music had gained substantial user bases, with 97 and 50 million paid subscribers, respectively, signifying a broader shift toward platform-managed music consumption (Gillespie, 2018). Although platforms brought back intermediaries, they did so in a different way: as algorithm-driven gatekeepers that not only suggest but also manage the channels by which listeners locate and enjoy music. According to Bonini and Gandini, these "new intermediaries" are a continuation of the informational capitalism infrastructures, intended to draw attention and extract value in a way similar to how commercial broadcasting controlled the spread of music in the 20th century (Shah, 2017).

Playlists are a hallmark of streaming platforms and have emerged as the most popular way to interact with music. About 60% of U.S. music streamers regularly use playlists, making them a native streaming medium (Prey, 2018). Commercial radio stations now frequently use Spotify and Apple Music platform charts to inform their programming selections, reversing long-standing radio norms (Shah, 2017). The significance of algorithmic recommendations has been emphasized by Daniel Ek, the founder of Spotify, which states that the platform's own recommendations account for over 30% of listening, a phenomenon that enables Spotify to "control the demand curve" (Ingham, 2018). A significant 68% of streaming subscribers report that their listening is guided mainly by playlists, not albums (Hogan, 2015).

Both Spotify and Apple Music have giant libraries, yet they differ in their distinct curatorial styles. With playlists as their primary offering, Spotify changed from being a straightforward distributor to a supplier of a specially tailored experience between 2013 and 2015 (Eriksson et al., 2019). This emphasis on curating is becoming more widely acknowledged as the platform's main service, setting their products apart from those that only provide access to music (Fleischer, 2017). As a result, a new group of powerful gatekeepers has arisen who are in charge of judging the worth of particular songs and performers. Through the use of playlists, these gatekeepers regulate not only specific songs but also more general cultural preferences by linking them to attitudes, ways of life, and consumption patterns (Bonini & Gandini, 2019).

Algorithms' blurry opacity has frequently prompted academics to refer to them as unapproachable "black boxes" (Pasquale, 2015), but new research indicates that a more comprehensive perspective is required. The need to consider the larger socio-technical assemblages of these systems is brought to the forefront by Seaver (2013, 2017) and Bucher (2018), who stress that algorithms must be understood within their social and cultural settings (Beer, 2017; Kitchin, 2017). Accordingly, music streaming services offer an important setting for investigating the ways in which commodification, datafication, and curation interact to create

cultural products (van Dijck, Poell, & de Waal, 2018). Given that streaming platforms function at the intersection of production and distribution in the current music economy, our examination of curation processes offers insights into the particular power dynamics present within these platforms. Despite many criticisms of the word, the idea of gatekeeping is still pertinent when analyzing these interactions. Algorithms are increasingly viewed as a new type of gatekeeper, even if the Internet and social media have decentralized certain gatekeeping functions, enabling networked public to affect the circulation of content (Barzilai-Nahon, 2008). According to Tufekci (2015), algorithms behave similarly to newspaper editors despite having different computational and interactive skills. The phrase "platform gatekeepers" is used by Bonini and Gandini (2019) to refer to music curators on streaming services, emphasizing the dual function of algorithmic and human selection in determining the distribution of digital music.

As algorithmic curation becomes the primary form of gatekeeping within the music industry, the need to investigate not only what it is but also how the curation occurs and with what methods it reinforces user behavior also becomes apparent. Maasø and Spilker identify six mechanisms of gatekeeping that algorithms wield to create listener inclination. These mechanisms are described as “hybrid,” an amalgamation of algorithmic coding, UI design, and human influence. As each and every one of these elements contributes to the preferences of the listener, it becomes apparent that algorithmic curation often constrains cultural diversity, although it appears as if there is unlimited access to music at first glance (2022).

The first mechanism Maasø and Spilker observe is titled ‘front boosting’; the mechanism is described by giving priority to first impressions. The streaming platforms are heavily inclined to emphasize earlier parts of a song and the first couple of spots in a playlist. The revenue model on artist royalties also reflects this; by counting listens every 30 seconds, the streaming industry revolves around strategies of getting listener attention as fast as possible (Maasø & Spilker, 2022). The layout of the apps themselves also reflect this tendency

towards fast visibility. The front pages are filled with curated and paid content, therefore influencing user choice towards predetermined selections curated by the platform. Front boosting not only shapes the consumer end of the industry but also the visibility of certain artists and genres, often at the expense of more niche ones.

Another mechanism is ‘novelty boosting,’ in which the priority of the algorithm is to promote what is currently new and popular (2022). Boosting novelty rather than known favorites, front boosting is often achieved by featuring curated playlists like Spotify’s ‘Release Radar.’ These playlists are usually displayed at the top of platform interfaces, where users are most likely to engage once the app is launched. Label executives and artists strategically leverage these playlists to influence trending algorithms and drive engagement (Maasø & Hagen, 2022). As seen in streaming metrics, the success of new releases post-streaming is regularly attributed to platform emphasis on novelty (Iqbal, 2020). By strengthening the importance of the “new” and “current”, platforms make sure that fresh content is always on demand and is always created. However, an extrusive side effect of this preference is obviously that older or niche material has to remain limited in discovery.

Besides promoting new content through novelty boosting, another mechanism found within music platforms is “choice narrowing.” Choice narrowing makes sure that even while boasting millions of tracks, user experience remains relatively simplified within the platform; users remain within the curated boundaries of the ecosystem by visiting carefully determined playlists and recommendations. An example would be found within the search button itself, where the platform constrains the selections of the user by first displaying trending content, providing less mainstream options only after those that are novel. The results of a search are filtered by ranking algorithms, which share the tendency of popularity also found in mechanisms of front boosting. Not only the algorithm but also the design of the user interface is important in user behavior throughout this process, as most users only encounter a portion of the available content (Maasø & Spilker,

2022). As the options are narrowed and the users are guided towards a more homogenized experience, it becomes apparent that the immediate priority for the platform is ease of use and commercial viability, rather than diversity.

However, the reduction of user choice extends beyond these three mechanisms. The main facilitator of this extension is another mechanism described as ‘flow prolonging.’ Flow prolonging as a mechanism works towards eliminating user decision making as much as possible during a complete listening experience. Features such as autoplay create a seamless music flow based on user behavior (Maasø & Spilker, 2022). Algorithms that expedite autoplay flows constantly analyze user data to recommend tracks that align with the listeners established preferences. This is often described as creating musical “echo chambers” (Erikkson et al., 2019). Spotify’s autoplay function in particular was introduced in 2017, by using forms of collaborative filtering to queue one trending song after another, the function further reinforces track popularity (Maasø & Hagen, 2020). Through convenience, flow prolonging maintains existing patterns of listening and limits exposure to niche content.

‘Event gravitating’ is another form of leveraging user behavior, anchoring music consumption to certain influential events, personal or cultural. Using either local, more spatial events such as anniversaries and festivals or more global, yet temporally relevant events such as royal weddings or holidays to promote tailored playlists, event gravitating provides the platform with the capability to actively create and update certain playlists in accordance with these moments, therefore increasing the visibility of artists and tracks in relation (Maasø and Spilker, 2022). This results in some songs dominating playlists annually, such as certain christmas songs, which also demonstrates how streaming platforms temporalize music engagement, while also strengthening their own hands by occupying the role of a cultural curator.

The final mechanism would be ‘context confirming’. This mechanism complements the rest by tailoring music recommendations in-line with specific

moods, activities or certain routines. Ranging from epic workout playlists to studying or even sleeping, this mechanism evolved from user-created playlists during the early phases of streaming to the juggernaut it is today. By embracing this organically occurring trend, platforms started offering pre-curated playlists for various contexts, displaying it on their interfaces (Maasø and Spilker, 2022). An example of context confirming can be found in Spotify's inclination towards playlists that are based on activities or moods, rather than music genres. Through context confirming, music genre categorization moves away from conventional musicality to situational and emotional relevance. Like most of the other mechanisms of algorithmic curation identified, context confirming also had its fair share of controversies. Platforms are often accused of selecting tracks with reduced royalties to include in their playlists because of economical motivations , which in and of itself raises many questions (Deahl & Singleton, 2017). This mechanism is perhaps the best example of how platforms align music recommendation with user behavior to develop their market value.

Aforementioned gatekeeping mechanisms at work within streaming platforms mark an alteration in cultural production and consumption due to the industry now being more data-centric than ever before, alongside the preferences brought upon by algorithmic curation. These mechanisms—front boosting, novelty boosting, choice narrowing, flow prolonging, event gravitating, and context confirming— put on display how platforms operate as more than passive intermediaries both in the context of the music industry and over cultural production in general (e.g., Netflix). By being capable of not only changing what the audience hears next but also how cultural content is perceived by the public, inspection of these mechanisms clears any obfuscation regarding how platforms have become more than passive intermediaries within the contemporary music industry.

Visibility and value of cultural content are the utmost emphasis for platforms, as they prioritize specific content both temporally and spatially via front boosting, dictating which content is seen first and consumed the most. Beyond the means

of accentuating visibility, this action correlates directly with the monetization strategies brought upon by platformization. Since higher visibility is responsible for higher streaming numbers and higher revenue for all stakeholders, this dynamic being controllable algorithmically provides a means of gatekeeping never seen before, reinforcing the economic viability of algorithmic curation. The control the platform has over the user is only amplified by other mechanisms previously discussed, such as novelty boosting. Creating a worship of what is ‘new’ and ‘novel’ is bound to accelerate both production and consumption of newer, fresh content intrinsically, risking an unsustainable model where older works are marginalized overall with reduced cultural longevity. As arbiters of cultural relevance, the alignment of platform algorithms is always in line with commercial incentives and market dynamics.

Although presented mostly with advertisements of millions of content with unlimited access, platforms also end up paradoxically restricting user agency by choice narrowing. Pipelining each listener towards a curated playlist limits the capabilities of the end-user's navigation through the platform. This narrowing isn’t a byproduct of efficiency but is a very deliberate strategy, enforced both through the user interface and the algorithm to send the user towards commercially valuable content. The transparency of the platforms has been debated among many, and the lack of it within the recommendation algorithms themselves compounds the issue extensively since users remain mostly unaware of what is shaping their listening experience, how it is shaping it and to what extent. The rhetoric of endless content and limitless choice versus heavily curated and limiting ecosystems is further shown by these mechanisms. Through the curated pipelines of users, flow prolonging also ensures the listener remains in the pipeline as long as possible. Automated forms of listening, such as autoplay features and algorithmically generated playlists that are curated constantly on-the-go, help platforms by minimizing their need for active user decisions. Although appearing seamless and engaging, this form of listening creates very predictable (especially for algorithms) and repetitive consumption patterns. Favoring tracks and artists that are either already listened to and liked by the user

or those that generally align with users of similar tastes. Through this feedback loop, the inclination towards what is already popular is further developed, exacerbating the disparity between niche and mainstream music. Because of the passive nature of autoplay, the platform allows itself to preemptively shape user behavior to maximize engagement metrics. Event gravitating is also very strategically used by platforms. By using specific events to create experiences that tie to consumption within very specific dates and contexts, platforms both link music to shared experiences while helping commodify cultural moments. Event-related playlists assert the platforms' roles as not only distributors of music but also as curators of cultural memory. The aforementioned mechanism of context confirming also plays a key part in this assertion, giving the platforms the ability to insert themselves within the very center of the listeners' lives through their moods and lived experiences moment to moment.

Once thoroughly investigated, it becomes apparent that the multifaceted nature of algorithmic curation reveals a deeply structured listening environment, which often prioritizes engagement and profitability over musical diversity and user autonomy. This system, while being efficient and user-friendly, does end up raising very fundamental questions regarding transparency and the commodification of cultural expression. The algorithmic governance debate in broader terms end up reflecting the underlying economical logics which prioritize profitability therefore, the primary challenge, as Maasø and Spilker (2022) emphasize the importance of critically interrogating the assembly of platforms to ensure that transparency, accountability, and inclusivity are maintained in the services provided. Addressing these issues is essential not only for the music industry's own future but also for cultural industries in general while within the age of the algorithm. With its tendency to put engagement and profitability first, algorithmic forms of curation have ramifications that go well beyond the realm of music recommendation systems. It simultaneously raises concerns about the commodification, management, and distribution of cultural expression in the digital sphere while influencing listening habits and organizing how consumers find information. In fact, the same factors that promote effectiveness and user-

friendliness can simultaneously concentrate power in the hands of a small number of powerful individuals by utilizing extensive data analysis and optimization. As Maasø and Spilker (2022) point out, this structural reality necessitates a critical examination of the way platforms are put together and run, advocating for increased accountability, transparency, and inclusivity to make sure that business needs don't overshadow cultural diversity. When we look away from curation to creation with the emergence of generative AI, these issues become much more pressing. In this case, algorithms actively create new music, art, writing, and images rather than just suggesting or filtering existing cultural products. This change has very prominent consequences for those who create and consume cultural content, clashing with concepts of originality, authorship, morality, and the dangers of standardization of artistic expression.

2.2. GENERATIVE ARTIFICIAL INTELLIGENCE

Another AI component that has a significant impact on the music industry today besides algorithmic curation is generative AI. Generative artificial intelligence, often acronymized as GenAI or GAI, refers to the artificial intelligence applications that make use of generative models to produce many different forms of data, ranging from text to images, videos, and, most importantly for the context of this research, audio. In the simplest of explanations, these models process training data while analyzing its patterns and structures to generate new forms of data (Stryker & Scapicchio, 2024). As previously discussed, developments in the fields of deep neural networks and large language models were responsible for the AI boom of the 2020s. Humble beginnings with chatbots such as ChatGPT and Gemini, image generation tools like Midjourney and DALL-E, and finally text-to-video, GAI has become the new norm for many industries. From healthcare to art, every industry has entrepreneurs trying to integrate the tech for more productivity.

Regarding audio production, the first step of the AI boom’s mainstream generative audio end would be the website 15.ai, which was released in 2020.

The free web application is capable of creating convincing voices using minimal training data (Chandraseta, 2021). Being one of the first mainstream applications of the audio deepfake technology, 15.ai was quite influential in popularizing the voice AI technology via meme culture. Next year would see the launch of DALL-E, which was later followed by Midjourney in 2022. Being capable of generating visual art through text prompts, these models were all publicly available, for free to some extent. Similar to 15.ai, this was very prominent in bringing the technology to the public's eye, arguably democratizing access to high-quality artificial art (Stability, 2024). Perhaps the most popular AI application, ChatGPT, would see its public release shortly in 2022. Turning generative AI into an "anything tool," ChatGPT would grab worldwide interest and garner many discussions regarding the technology's impact on creativity and society in general (Huang, 2023). ChatGPT and other multifunctional AI models such as X's Grok, Anthropic's Claude, and Google's Gemini would continue to spark public interest as tools theoretically capable of doing every human task possible. 2023 would see the release of Meta's ImageBind, a model capable of combining multiple forms of data such as text, audio, visual, movement, thermal, and depth (Vincent, 2023). As other AI models followed a similar pattern of convergence, the questions regarding how close we are to Artificial General Intelligence (AGI) as a society would grow. Defined as a form of artificial intelligence that can match or even surpass human capabilities, discussions revolving around AGI would start to leave the realms of science fiction and enter interviews with tech corporations. A team from Microsoft would argue that GPT-4 "could reasonably be viewed as an early version of an AGI system" (Bubeck et al., 2023). Next year, OpenAI employee Kazemi would claim that the company had already achieved AGI, reasoning that the machine was better than most humans at most tasks, if not all (Harrison, 2024). As discussions of AGI are heating up with such claims, the debate around AI's creative capacities has also increased. It is inevitable that the discussions often spill into what we find the most human of tasks: art. Specifically, in regard to music composition, if AI is more or less on par with humans everywhere, what value does authorship and originality have within the total value of music? In the context of the music industry, machine-generated melodies,

harmonies, and full songs are now changing many assumptions of how inherently human music as an art form is, if it was at all.

A wide range of AI-powered technologies have surfaced in recent years, allowing for everything from algorithmic music creation to real-time audio analysis and mixing support. These developments are changing preconceived notions about creativity, originality, and the place of human talent in music production and consumption. Along with such changes, it becomes a must for society to reevaluate the distinctions between human- and machine-generated art. However, it is clear that a proper chronology of the applications has to be established before drawing conclusions. Pioneering more modern software applications, a coding language named ChucK was developed at Princeton University by Rebecca Fiebrink, Ge Wang, and Perry Cook. ChucK is a text-based, cross-platform programming language well-suited for real-time sound synthesis and music creation (ChucK Team, 2025). By classifying theoretical techniques found in musical pieces, ChucK can synthesize entirely new works derived from the patterns it has internalized (Fiebrink et al., 2009). This approach to coding displays how AI-powered systems can leverage data from existing compositions to create novel output without direct, one-to-one imitation. One of the first modern platforms that followed ChucK was Jukedeck, a platform that allowed users to generate original, royalty-free music tailored for videos and other media projects. Initially built on rule-based algorithmic composition, Jukedeck transitioned to using artificial neural networks, following technological AI trends from static sets of compositional rules toward more adaptive, learning-based methods (Cheshire, 2014; Marshall, 2023). Jukedeck's technology saw widespread use, producing over one million pieces of music and attracting clients such as Coca-Cola, Google, and UKTV until it was acquired by ByteDance, which was part of the TikTok group in 2019 (Fishwick, 2018; Ingham, 2019). Jukedeck exemplifies how AI can efficiently produce satisfying background tracks at scale while still offering a degree of customization and remain commercially viable for business-to-business working environments. Another modern example of AI application in music would be Magenta. Launched in 2016, Google's Magenta

team has been at the forefront of AI music research, publishing technical papers and releasing various open-source tools (Eck, 2016). In 2017, Magenta introduced NSynth—an algorithm and dataset designed to blend and morph existing sounds—and even released an open-source hardware musical instrument to demonstrate NSynth's capabilities (Engel et al., 2017). Beyond NSynth, Magenta has explored interactive piano improvisation (Piano Genie), MIDI-based composition plugins (Magenta Studio), and, most recently, MusicLM, a private text-to-music generator presented in 2023. In the same timeframe, across the globe, AIVA (Artificial Intelligence Virtual Artist) was founded in Luxembourg in 2016 with the aim of generating soundtracks across a variety of media formats (Kaleagasi, 2017). Powered by deep learning architectures, AIVA gained attention for producing classical-style pieces as well as rock tracks, finally culminating in Southern's 2018 collaboration album, *I AM AI* (Southern, 2018). AIVA's wide-ranging capabilities exhibit the versatility of AI composition and the ease with which musicians can collaborate with such tools in different genres. The mainstream collaboration of Southern and AIVA also displays an antecedent for the symbiotic relationship forming between AI tools and the creativity they aim to augment. Algorithmic audio generation often takes different approaches to get original results. An example of this is Riffusion. The neural network Riffusion takes a novel approach to generating music by fine-tuning the Stable Diffusion image-generation model on spectrograms rather than traditional audio data (Coldewey, 2022). When prompted with text, Riffusion produces visual spectrograms that can then be converted back into audio via an inverse Fourier transform. While the resulting clips are relatively short, the space between outputs enables seamless transitions, or "interpolations," between different musical styles (Nasi, 2022). Riffusion is a prime example of cross-domain methodologies in the field of artificial intelligence. By using images to drive sound generation, the application has shown how original methods can emerge within AI-driven creativity with unexpected results.

By 2024, two major music generation applications are standing out for the end user: Suno and Udio. Suno is a generative artificial intelligence program that is

primarily designed to generate realistic songs, with proper instrumentation and even vocals, if need be. Being accessible since 2023 via text prompts through a web application and later a mobile app in 2024, Suno is partnered with Microsoft under the umbrella of Microsoft's Copilot AI (Coombes, 2024; Ward, 2023). Suno was founded by former employees of Kensho, an AI startup from Massachusetts. The company began with small steps by first releasing its speech and audio model "Bark" under the MIT license. By 2024, Suno had released its V3 version to all users for free, besides a subscription-based premium model with extra features (King, 2023). A short while later, V4 would be released, improving the program vastly in a lot of areas while also providing a backwards compatibility option to enhance songs previously generated with V3. Suno is a prime example of how easy it has become to theoretically "create" a song by making it no different than texting a friend. Similarly, Udio was also founded in 2023 by four Google employees with financial support from many music industry and artificial intelligence veterans (Hiatt, 2024). Launching its beta phase in 2024, the app allowed users to create 600 songs per month for free (Hachman, 2024). Using a large language model, Udio is capable of taking user prompts ranging from genres to artistic styles. Similar to Suno, Udio also operates on a subscription model with better features in comparison to the free version. The platform quickly attracted attention with viral tracks like "BBL Drizzy," and it even produced "Verknallt in einen Talahon," the first AI-generated piece to enter the German Top 50 charts (Lawrence, 2024; Olterman & Cole, 2024).

Beyond these specific tools and platforms, AI promises to democratize music production. Thanks to user-friendly interfaces, even newcomers can now experiment with compositional ideas that once required extensive musical training. AI-generated suggestions can act as creative catalysts, offering producers multiple iterations of a track in a chosen style. Moreover, AI-driven music software is often capable of handling complex tasks such as automatic mastering or style emulation. Producers can supply a reference track or set of stylistic guidelines, and the AI will refine the piece accordingly. This not only speeds up the music-making process but also sparks innovative ideas, as AI can

introduce patterns or chord progressions that human composers might not have considered. AI relies on training data rooted in existing human creativity, even though it can emulate specific musical styles or fuse different genres. The blurry line between machine learning and human artistry raises legal and ethical questions, such as copyright ownership of AI-composed works and the fairness of training systems on large libraries of compositions. Yet, for many musicians, the allure lies in how AI tools can enhance human ingenuity, generating musical ideas and sonic palettes that expand the expressive frontier. In the near future, it wouldn't be unrealistic to expect further integration of style emulation and musical fusion, with AI tools capable of producing increasingly refined and genre-bending compositions. Still, as exciting as these developments are, they also introduce a host of pressing ethical dilemmas. When machine-learning models draw on vast repositories of copyrighted material or emulate specific musical styles, questions of intellectual property, artistic originality, and fair compensation for creators inevitably arise. The ease with which AI can generate music or assist human composers in doing so is undercutting the human labor that has traditionally defined and provided value for creative work. As AI becomes further integrated into music production pipelines, concerns about bias, accountability, and cultural homogenization demand careful examination. Indeed, the push to innovate technologically often clashes with the need to preserve and celebrate diverse musical heritages. These tools are generating not only music but also questions about who actually benefits from these advancements and at whose expense.

2.2.1. Artificial Intelligence as a Collaborator

As artificial intelligence becomes more embedded in music-making, a human-centered design approach is crucial to ensure these tools truly support and enhance human creativity. Researchers emphasize that co-creative AI systems must offer users a high degree of control and be aware of context to be effective collaborators (Gianet et al., 2024a). In practice, this means allowing musicians to guide the AI's contributions in line with their artistic intentions and the specific musical context. For example, a study of an AI songwriting contest found teams often had to generate many outputs and selectively curate them because models

were not easily steerable. The authors concluded that future music AI interfaces should be “more decomposable, steerable, interpretable, and adaptive” to align with user goals (Huang et al., 2020). Indeed, another evaluation of an AI-assisted composition tool showed that while users appreciated its novelty and ease of use, they felt limited by a lack of fine controls, expressing a strong desire for more flexibility and parameters to direct the musical outcomes (Tchemeube et al., 2024). Participants reported difficulty in “steering the system” with only a single creativity knob and wanted the ability to specify instruments, style, and other constraints. These findings reinforce that transparent controllability is key: musicians should feel the AI is an extension of their creative agency, not a black box. Equally important is context awareness—the ability of AI to understand musical and social context. Music composition is a highly contextual activity shaped by genre conventions, personal style, and social setting (Gianet et al., 2024b). If an AI suggests ideas oblivious to the genre or the emotional tone a user is aiming for, it can derail the creative flow. Designers are thus exploring ways for AI to incorporate context, such as training models on specific styles or allowing users to input references and constraints. Gianet et al. (2024a) note that many current systems evaluate human-AI interaction in lab settings but rarely account for the “situated” socio-cultural context of real music creation. They advocate for ethnographic approaches to understand how composers integrate AI into their workflows and how personal and cultural context influences needs. Preliminary findings indicate that composers have clear creative intentions and meanings they wish to express, and AI tools should respect and support these intentions rather than override them (Gianet et al., 2024b). In other words, an AI collaborator should adapt to the user’s creative vision (e.g., producing a “middle-ground” solution between bandmates’ ideas) instead of pushing its own agenda.

Another aspect of user-centered design is fostering trust and communication between humans and AI. When musicians play together, they rely on many non-verbal cues and mutual understanding—dynamics that are hard to replicate with an AI partner. McCormack et al. (2024) addressed this challenge by developing an AI improvising drummer that visibly communicates its internal confidence level via an emoticon display. This extra-musical channel gave human bandmates

insight into the AI's "feel" for the music, which significantly improved their engagement and trust in the collaboration (McCormack et al., 2024). Such findings suggest that making AI systems more transparent— for instance, showing why it generated a certain melody or how uncertain it is—can strengthen the human-AI creative rapport. Indeed, "AI as social glue" is a concept proposed by Suh et al (2024), who found that AI can mediate collaboration by seeding common ground and providing a safety net in group composition settings. In their study, AI-generated musical ideas helped break the ice among co-creators and kept the momentum when humans felt stuck, acting as a "force for progress" in jams (Suh et al., 2024). However, they also caution that if not carefully designed, AI might inadvertently redefine human roles, turning musicians into passive critics of AI output rather than active composers. To avoid such a shallowing of human creativity, designers are urged to create AI systems that invite meaningful human input and deepen collaboration rather than just ease it. In summary, putting human creativity at the center—through user control, context sensitivity, transparency, and intentional role design—is paramount for AI to succeed as a genuine musical collaborator (Gianet et al., 2024a; Suh et al, 2024).

The remarkable capabilities of today's musical AI collaborators are built on advances in machine learning architectures—notably Transformer networks, recurrent neural networks (LSTMs), Generative Adversarial Networks (GANs), and Variational Autoencoders (VAEs). Each of these plays a distinct role in modeling music and enabling co-creative interactions. Transformer architectures, originally developed for language, have revolutionized music generation with their ability to capture long-range dependencies in sequences. In music, transformers can learn musical structure over many measures or even an entire composition, producing outputs with coherent global structure (e.g., a beginning, development, and ending) rather than just moment-to-moment consistency. For example, the music transformer (Huang et al., 2018) demonstrated that a self-attention transformer could generate piano pieces with convincing longer-term phrasing and repeats. Modern systems like GPT-4-based music models similarly leverage transformers to generate harmonically and rhythmically complex pieces from a brief prompt. In co-creative scenarios, transformers offer the advantage of flexible

conditioning: users can prompt them with an initial motif or specify a style, and the model will continue or elaborate in context. The Multi-Track Music Machine (MMM) is one such transformer-based system that allows conditional generation of multi-instrument music; when integrated into a DAW for user testing, it provided powerful capabilities for users to generate and regenerate musical ideas on demand (Tchemeube et al., 2024). Users in that study valued the transformer model's creative suggestions but, as noted, wanted more interactive "AI-steering" controls on its output (Tchemeube et al., 2024). This has led developers to augment transformer models with interfaces for controllable generation—for instance, sliders that adjust the model's creativity or influence the likelihood of certain instruments (Louie et al., 2020). In short, transformers supply the musical fluency in AI collaborators, handling complex structure, while researchers work to make their behavior tunable by the human partner.

Recurrent neural networks, especially Long Short-Term Memory (LSTM) networks, paved the way for many early music generation systems and remain relevant in certain co-creative tools. LSTMs process sequences note by note, preserving an internal state that represents musical context. Before transformers became dominant, LSTMs achieved impressive results in emulating styles—for example, the DeepBach system used an LSTM-based approach to generate Bach-style chorales that fooled expert listeners (Hadjeres et al., 2020). LSTMs are still useful for real-time interactive systems because they can operate in a streaming fashion, predicting the next notes as a musician plays. An AI improvisation partner might use an LSTM to listen to a human pianist's melody and instantly respond with a harmonizing sequence, maintaining musical coherence through its recurrent state. Compared to transformers, LSTMs typically require less computational power and can be easier to train on modest data, which is advantageous in niche domains or on-device applications. However, they have limitations in capturing very long-term structure (e.g., remembering a theme introduced several minutes ago). In co-creation contexts, LSTM-based models are often employed for micro-level generation (like riff generation and drum pattern continuation) where local musical consistency is the priority. For example, an intelligent drum machine might use an LSTM to extend

a user's 2-bar beat into a full 8-bar groove, aligning with the user's initial rhythmic motifs. Many current AI music assistants under the hood use hybrid approaches: an LSTM to ensure responsiveness and fine detail, combined with higher-level planning from a Transformer or symbolic rules.

Generative Adversarial Networks (GANs) offer a different paradigm, where two neural networks (a generator and a discriminator) are trained in tandem—one learns to produce data (e.g., music) and the other critiques it, pushing the generator to improve. GANs have shown success in producing stylized musical content, especially in the image-like domain of piano roll notation or in audio synthesis. For instance, MuseGAN (Dong et al., 2018) generated multi-track music (drums, bass, piano, strings) by treating each as an image channel and training a GAN to create plausible combinations of instrument patterns. In co-creative tools, GANs can be used to generate a batch of musical ideas from noise, which the human can then pick from – effectively an AI ideation partner that offers suggestions. One advantage of GANs is that they can capture a distribution of possible outputs, potentially giving more variety than a maximum-likelihood model. However, pure GAN approaches in music can be hard to control; the user cannot easily steer the random noise input to get a specific type of output. Researchers have introduced conditional GANs to address this, allowing some conditioning on genre or composer, but fine-grained control remains challenging. As a result, GANs in practical music collaboration tools are often combined with other methods or used for specific tasks like generating raw audio textures or drum samples that the human artist can further sculpt. For example, an AI sound design assistant might use a GAN to generate hundreds of novel percussive sounds or synth timbres from which the user selects favorites to build a track. Here, the GAN acts as a creative spark generator, expanding the palette of sounds available to the musician (Acil, 2024). The use of GANs also extends to audio engineering tasks like upsampling audio or source separation, where adversarial training helps produce more realistic outputs, indirectly benefiting creative workflows by improving audio quality for artists. Variational Autoencoders (VAEs) have become a cornerstone for AI tools aimed at exploration and creativity, thanks to their ability to learn a compressed latent

representation of music. A VAE consists of an encoder that maps music into a latent vector (a kind of abstract musical space) and a decoder that maps any latent vector back to music. The power of VAEs lies in the structure of this latent space—it tends to organize musical ideas in a continuous, meaningful way. This approach enables a musician to interpolate and morph between ideas by moving through the latent space, an interaction modality uniquely suited to co-creation. Latent Chords by Macaya et al. (2024) exemplifies this: it is a VAE trained on piano chords that learns a 2D latent space where neighboring points correspond to harmonically related chords. Musicians can navigate this “chord map” to discover chord voicings and progressions that interpolate between known harmonies, effectively exploring new harmonic ideas with intuitive visual control (Macaya et al., 2024). The system can even generate entirely new chords by sampling points in between clusters of familiar chords, suggesting novel sounds that still make musical sense. Such a tool enhances co-creation by giving users an interactive canvas to probe the space of possibilities, rather than having to specify exact outputs. VAEs have also been used for melody and drum pattern generation (Roberts et al., 2017), where users can dial a latent vector to blend, say, two rhythms or two melodic themes. This continuous morphing capability is a distinct asset in creative exploration—it encourages users to traverse uncharted musical territory with the safety that nearby points produce related, not random, outcomes. Moreover, VAEs can incorporate conditional attributes in the latent space; for example, a conditional VAE might have dimensions that correspond to tempo or mood, which a user can adjust. By combining latent exploration with such semantic controls, co-creative VAEs strike a balance between surprise and guidance. They invite the user to playfully experiment (e.g., “What’s the halfway point between a waltz and a tango?”) and often yield happy accidents that inspire the human artist. In summary, these technicalities—transformers for structure, LSTMs for continuity, GANs for variety, and VAEs for intuitive exploration—form the engine of AI music collaborators. Ongoing research continues to hybridize and refine these models (Huang et al., 2020), with the goal of making AI not only more musically competent but also more responsive to human creative intent in real time. The sophistication of these architectures is what enables AI tools like

Latent Chords to enrich human creativity, providing both a robust knowledge of musical patterns and a malleable medium through which users can explore new ideas.

AI's growing role in music production is revolutionizing the creative process by democratizing who can make music and how music is made. In the past, producing a polished track required substantial training, access to studios, or collaboration with skilled instrumentalists and engineers. Today, generative AI tools are breaking down these barriers. Novices and non-musicians can experiment with composition using user-friendly AI software, creating respectable songs without extensive theory or instrumental skills. This democratization is evident in tools like Amper Music and AIVA, which enable users to generate background music by simply selecting moods and styles (Bonini & Magaudda, 2024). Such platforms empower content creators in video, podcasting, or game development to obtain custom music on demand, challenging the traditional model of commissioning composers or licensing stock music. By lowering entry barriers, AI expands creative participation in the music industry—a development with many cultural implications as more diverse voices can produce music. At the same time, AI-driven production is upending traditional roles and workflows in music. Musicians increasingly collaborate with algorithms, blurring the line between human creator and tool. Studies have noted a shift in the human creator's role toward that of a curator or editor when using AI tools (Gianet et al., 2024a). Instead of writing every note, a composer might generate multiple melodies with AI and then pick, combine, and refine the best ones. This new mode of working was evident in the AI Song Contest, where teams integrated AI into songwriting. Participants often ran many smaller generative models (for melody, harmony, lyrics, etc.) and then pieced together the outputs, essentially "juggling" a parallel creative process of exploration and curation (Huang et al., 2020). While powerful, this approach challenges the romantic notion of the lone genius composer—creativity becomes a more distributed process between human and machine. Also, it is possible to fetch many practical and ethical questions: Who is the author of an AI-assisted song, and how should credit and royalties be allocated? The industry is grappling with these questions, as seen in

debates about whether AI-generated music can be copyrighted or whether algorithms should be acknowledged as co-writers (Bonini & Magaudda, 2024). Some collecting societies have even recognized AI composers, signaling that the definition of a composer is expanding.

AI is also challenging creative norms by enabling new kinds of music that previously might not have been imagined. By training on vast and eclectic datasets, AI models can synthesize unusual combinations of influences, potentially catalyzing the emergence of new genres and styles (Acil, 2024). For instance, an AI might blend classical symphony structures with jazz improvisation and electronic timbres, generating hybrid pieces that push genre boundaries. Acil (2024) notes that AI has "blurred traditional boundaries between music and soundscapes" and accelerated cross-pollination across musical cultures. This can lead to exciting innovation and a more globalized musical landscape, as algorithms mix elements from different traditions. However, there is also concern about a potential homogenization of music if many people rely on the same algorithms trained on the same popular data (Acil, 2024). Without diverse training inputs and user guidance, AI could produce an abundance of formulaic music, reinforcing prevailing styles at the expense of originality. Thus, the cultural impact of democratized AI music production is double-edged: it amplifies creativity and access but also demands vigilance to maintain diversity and authenticity.

Finally, traditional gatekeepers in the music industry—record labels, producers, and A&R executives—are seeing their influence shift. As AI-generated music becomes more prevalent, success may depend less on exclusive access to talent or expensive studios, and more on data and algorithms. Major music companies and tech firms are investing in AI to streamline music creation and catalog management (Bonini & Magaudda, 2024). Spotify's internal Creator Technology Research Lab, for example, has explored AI-generated music to personalize playlists or provide artists with AI-powered composition aids (Bonini & Magaudda, 2024). These trends suggest a future where AI is embedded at every level of the music creation pipeline. In sum, AI's role as a collaborator is democratizing music production, empowering newcomers, and challenging the hegemony of traditional

practices. This revolution carries the promise of a more inclusive and innovative music culture, while also confronting the industry with new paradigms of authorship, ownership, and creative labor. As Bonini and Magaudda (2024) put it, the question is not just where the music of the future is heading, but *who* will be creating it in partnership with intelligent machines.

Beyond production, AI is transforming music education by providing tools for personalized and interactive learning. Educators have begun to harness AI to create adaptive learning experiences that cater to individual students' needs—a sharp departure from one-size-fits-all teaching. For example, intelligent tutoring systems can now function as a virtual music tutor, offering real-time feedback and guidance similar to a human teacher (Merchán Sánchez-Jara et al., 2024). Such systems use machine listening and pattern recognition to evaluate a student's performance (e.g., checking if notes and rhythms are played correctly) and then offer detailed, personalized feedback. This mimics the individualized attention of private lessons but can be made accessible to any learner with an app or computer. Early studies show that these AI tutors can effectively help students practice instruments or music theory by instantly identifying mistakes and suggesting targeted corrections (Merchán Sánchez-Jara et al., 2024). For instance, an AI piano tutor might listen to a student's scales and diagnose tension in hand posture, or a theory tutor could generate custom quizzes on chords the student finds challenging. By tailoring instruction to each student's progress, AI tutors keep learners in their optimal zone of development – not bored by too-easy material nor overwhelmed by difficult concepts. This personalization holds great promise for engaging students and accelerating skill mastery.

AI is also being used as a composition assistant and creative coach for music students. Learning to compose music traditionally requires mastering theory and painstaking trial and error to hear one's ideas realized. Now, students can leverage generative AI models to explore musical ideas more freely. For example, a young composer might input a rough melody and have the AI suggest possible harmonies or even orchestrate it for various instruments. Rather than replacing the student's creativity, these AI suggestions serve as interactive prompts that

the student can accept, reject, or modify—much like brainstorming with a collaborator. This kind of tool encourages learning by doing: students can quickly experiment with complex textures or styles that would be laborious to produce manually, gaining a deeper understanding of composition in the process. Indeed, Gianet et al. (2024a) observe that AI assistance tends to shift the user's role toward co-production, where the human focuses on selecting and refining outputs. In an educational context, this shift can be beneficial, as it exposes students to a breadth of musical possibilities and fosters critical listening and decision-making about what works in a piece. Some music education software now includes AI-driven "idea generators" or style transfer algorithms that let students, say, transform their melody into Bach's style or into a jazz idiom to learn music theory by comparison. By providing a safety net and source of inspiration, AI lowers the intimidation factor of composition and invites students to engage creatively early on. This aligns with Suh and Youngblom's (2024) finding of AI as a "psychological safety net" in co-creation, making collaborators (in this case, students) feel more free to take creative risks without fear of failure.

Another exciting application is interactive ear training and theory learning. Traditional ear training (learning to recognize intervals, chords, and rhythms by ear) can be tedious, but AI offers ways to make it more dynamic and context-driven. Sanganeria and Gala (2024) demonstrate a system where the AI generates ear-training exercises from the student's favorite songs: for instance, automatically extracting chords from a pop song and prompting the learner to identify them. This connects formal training directly with music the student loves, increasing motivation and showing real-world relevance. The AI can also adjust difficulty in real time—if the student struggles with recognizing a chord, the system might simplify the next question or replay the chord more slowly, mimicking a skilled instructor's adaptive approach. Likewise, AI-driven games can synthesize melodies or beats on the fly for the student to iterate, providing endless fresh practice material instead of rote drills. A recent review identified such learning personalization, composition exercises, and interactive theory tutors as among the nine key areas where AI is enhancing music education (Merchán Sánchez-Jara et al., 2024). Early classroom pilots suggest that

students who used AI-powered ear-training apps showed faster improvement and greater enthusiasm compared to those with static exercises (Merchán Sánchez-Jara et al., 2024).

AI opens up new avenues for collaborative and inclusive learning in music. Virtual reality combined with AI can create immersive environments where students "jam" with AI-generated musicians, useful for those who don't have peers at a similar skill level. For learners with disabilities, AI-generated music interfaces can adapt to different inputs (voice, gesture, switch devices), enabling participation in music-making that might otherwise be difficult – an important assistive application (Merchán Sánchez-Jara et al., 2024). And for music educators, AI can aid in assessment by objectively analyzing student performances over time, freeing teachers to focus on mentorship rather than rote grading. Of course, these innovations come with challenges: educators worry about maintaining fundamentals (students shouldn't become overly reliant on AI suggestions), and ethical use of AI (ensuring AI-generated teaching materials are accurate and culturally appropriate). Nonetheless, the consensus in recent educational research is that, if used thoughtfully, AI has great potential to augment music education – making learning more personal, engaging, and exploratory (Merchán Sánchez-Jara et al., 2024). By serving as patient tutors, accompanists, and creative partners, AI tools can nurture the next generation of musicians in ways that were not previously possible.

The integration of AI in music is not happening in isolation—it is generating ripples across various disciplines, influencing practices in sound engineering, music therapy, cognitive science, and more. In sound engineering and production, AI systems have become valuable assistants, optimizing and sometimes reinventing technical workflows. Audio engineers now routinely employ AI-powered tools for tasks like mixing and mastering—for instance, LANDR is an AI-based mastering service that automatically balances and EQs a track to professional standards (Bonini & Magaudda, 2024). Such tools analyze audio with machine learning models trained on vast numbers of songs, applying signal processing adjustments that used to require a seasoned engineer's ear. The result is that

independent musicians can achieve polished sound quality without a high-end studio, which complements the earlier point about democratization. In creative audio design, AI can generate endless variations of effects or instrument sounds, which a sound engineer or artist can then tweak to taste. This is transforming sound design into a more exploratory process: rather than manually crafting one sound at a time, designers can use AI to suggest a spectrum of new sounds. For example, an AI model might be tasked with generating realistic environmental soundscapes for a video game—doing in minutes what might take a human designer weeks of field recording and editing. Additionally, intelligent audio plugins are emerging that listen to a mix and make context-aware suggestions (Tchemeube et al., 2024). An AI "assistant" plugin might detect that the vocalist's track is being masked by the guitars and automatically propose EQ cuts on the guitar track, or it might continuously adapt a reverb setting to maintain clarity. This kind of augmented engineering frees creators to focus more on the artistic aspects while routine technical adjustments are handled by AI. However, it also raises questions about the future role of human engineers and the transmission of expert knowledge—much like how creative AI challenges the role of composers. Many experts believe the optimal scenario is synergy: human engineers collaborating with AI tools that handle grunt work and provide second opinions, ultimately achieving results neither could alone.

In the realm of music therapy and health, AI's impact is just beginning but shows considerable promise. Music therapy leverages music to achieve therapeutic outcomes—reducing stress, improving mood, aiding in rehabilitation, etc. A longstanding challenge in music therapy is personalization: each individual may respond differently to musical features depending on their memories, preferences, and neurobiology. AI can help tackle this by analyzing a patient's responses and tailoring the musical stimuli in real time. For example, researchers are exploring AI-generated playlists for pain management that adjust in tempo and intensity based on the patient's physiological signals (heart rate, brainwaves) to optimally entrain relaxation (Shah, 2023). Likewise, AI emotion recognition algorithms can detect if a piece of music is having the desired calming effect (perhaps by monitoring galvanic skin response or EEG) and then maintain or

modify the music accordingly (Suh et al., 2024). Such systems essentially create a closed loop between patient and music, with AI as the intermediary ensuring the music's therapeutic efficacy. Early trials in clinical settings have reported positive outcomes, for instance, using AI-curated music to reduce anxiety in pre-surgery patients by dynamically responding to stress indicators (Hong et al., 2023). Beyond direct therapy, AI music generation is also aiding cognitive neuroscience research into music and the brain. Because AI models can systematically manipulate musical parameters and generate controlled variations, they are useful for experiments: neuroscientists can present AI-composed pieces that isolate certain features (rhythm complexity, dissonance level, etc.) and observe neural responses, helping to pinpoint how the brain processes those elements. In this way, AI serves as a research tool to probe the cognitive and neural basis of creativity and perception.

Another interdisciplinary crossing is between AI music systems and the cognitive psychology of creativity. The process of human-AI co-creation in music is itself a subject of study that can inform our understanding of human creativity. By observing how composers work with AI suggestions, researchers like Gianet et al. (2024a, 2024b) view music as a *"lens for understanding human-AI collaboration."* They investigate questions such as, does collaborating with an AI influence the creative decision-making of the human? How do notions of ownership and authorship evolve when ideas originate partly from a machine? Early insights suggest that humans maintain a sense of authorship by curating AI outputs; essentially, creativity is perceived not just in generation but in the selection and framing of ideas (Gianet et al., 2024a). This aligns with theories in cognitive science that creative work often involves generating many ideas (divergent thinking) and then converging by evaluating them. AI naturally excels at divergent idea generation; human musicians excel at emotional evaluation and contextual judgment. Studies in this vein provide a more nuanced picture of creativity as a distributed cognition process, with AI as an extension of the creator's mind. The lessons learned can potentially apply to other creative fields and inform the design of collaborative AI in general. Furthermore, from an educational psychology perspective, co-creating with AI might help develop a

learner's creative skills by externalizing part of the process, allowing reflection on what the AI is doing versus what the human is contributing. This is an area of active interdisciplinary research bridging music, AI, and learning sciences (Merchán Sánchez-Jara et al., 2024).

Lastly, AI's impact on music in society at large—part of the cultural industries—cannot be separated from ethical and sociological dimensions. The advent of deepfake music (AI cloning artists' voices or styles) has legal and ethical implications that involve law, policy, and musicology. Cultural scholars (Bonini & Magaudda, 2024; Acil, 2024) are examining how AI-generated music challenges our notions of creativity, authenticity, and cultural value. Is a symphony composed by an AI less "authentic" than one by a human, and who gets to decide that? Some argue that AI could dilute the human cultural expression in music, turning it into a utilitarian product on tap for advertisers and content platforms. Others see AI as a tool for cultural preservation and expansion—for example, training AI on rare folk music recordings to generate new pieces in those styles, thereby keeping traditions alive in contemporary creation. In cognitive neuroscience, these developments spur questions about the uniqueness of human musical creativity: scientists ask whether studying AI models that create music can reveal algorithmic principles also used by the human brain's creative circuits. Early comparative studies indicate differences—for instance, humans often derive inspiration from narrative, visual imagery, or emotional context that AI lacks—but also intriguing overlaps in pattern processing (Sawyer et al., 2024). The interdisciplinary impact is thus a rich dialogue: AI is influencing how music is made, experienced, and understood across fields, and conversely, insights from those fields are influencing how we develop and deploy musical AI. AI as a collaborator in music is far more than a technical innovation; it is a catalyst for cultural and scientific exploration, linking the art of sound with engineering, therapy, and the science of the mind. It holds the potential to not only create new sounds but also to deepen our understanding of creativity and the human condition through music.

2.2.2. AI, Ethics & Copyright: Recent Examples

Once seen mostly as a compositional toy or an experimental curiosity, artificial intelligence has grown more and more important for musicians, record companies, legislators, and the general public. AI has provoked serious debates on creativity, originality, copyright, and moral rights, from voice cloning technologies that mimic renowned artists with amazing realism to automated systems producing entirely new works. From the passing of brand-new laws to debates over AI-generated songs on major streaming services, this change is seen in a range of recent worldwide events. These events draw attention to the pressing need to re-evaluate legal frameworks, ethical principles, and industry practices to strike the great creative potential of artificial intelligence with the rights and interests of human creators.

Ethical issues in AI-driven music centre on authorship, originality, and the consequences for employment in the creative sector. Many scholars investigate similar topics, arguing that our idea of musical creativity could be impacted by growing dependence on artificial intelligence. The much more urgent issue is how the law handles these intricacies. Courts and legislators have to deal with issues of ownership and responsibility when generative artificial intelligence becomes more independent, creating songs or even whole albums with little human involvement. Though it is being tested by the emergence of nonhuman agents that "create" new works, modern copyright law—especially in countries like the EU and the United States—was designed for human writers and interpreters. Given these circumstances, it is not totally obvious whose input is needed to designate an AI-generated work as original and hence qualifying for copyright. Concerns over an artist’s persona and the sanctity of their contributions have recently prompted legislative responses. In Tennessee, for instance, a law known as the ELVIS Act—officially titled Exploitation of Likeness and Voice in Sound made its debut. Dubbed the ‘Elvis Act’ after Elvis Presley, one of Tennessee’s most legendary musical icons, the initiative mandates that the image and voice of performers or their heirs cannot be appropriated in AI-generated productions without explicit approval (Rosman, 2024). This measure is important for

preserving the gravity of safeguarding creative legacies in the digital era, offering penalties to deter any unauthorized usage of a star's likeness in AI-driven content. The impetus for such legislation appears to reflect mounting unease about the ease with which generative systems can mimic distinctive vocal timbres or visual aesthetics, ultimately raising reputational and financial risks for creators. By the year 2024, an assortment of notable musicians—including Stevie Wonder, Robert Smith, Billie Eilish, and Nicki Minaj—joined in an open letter urging stronger protocols to ensure that deepfake tracks or synthetic renditions do not infringe upon an artist's proprietary and moral rights (Aswad, 2024). That letter stressed the necessity of obtaining informed consent and developing equitable remuneration practices for instances in which an artist's voice or image is employed in AI-originated productions.

Such developments coincide with the global explosion in AI-composed or AI-assisted compositions, prompting further scrutiny beyond mere regulatory frameworks. While many AI systems presently rely on human instructions and prompts, theorists project a future when AI can autonomously generate music with negligible or virtually no human guidance (Sturm et al., 2019). Under EU law, authorship is generally contingent upon identifying the actual "human" author and their connection to the creative output. Yet the question of who truly "creates" a piece in a scenario where an AI is responsible for the majority of the composition remains unresolved. These uncertainties fuel disputes over ownership. Is the rightful holder the AI's programmer, the data trainer, or the end user who sets the conditions for the system's outputs? Copyright laws are, by nature, designed to confer rights to human authors, but as the quantity of AI-derived works proliferates, that premise starts to become untenable. Under the current regime, most legal experts concur that fully computer-generated material cannot be copyrighted, although the conversation surrounding partial human involvement is more complex (Buning, 2018; Deltorn & Macrez, 2019; Guadamuz, 2017; Lauber-Rönsberg & Hetmank, 2019; Michaux, 2018; Ramalho, 2017; cited in Sturm et al., 2019). Once a certain threshold of creativity by a human collaborator exists,

copyright eligibility may be triggered. Still, quantifying that threshold can be extraordinarily difficult in practice.

Even so, streaming services have already confronted the complications of regulating this surge of generative music. Spotify, in one instance, removed tens of thousands of songs flagged as AI creations, frequently uploaded via the service Boomy (Johnson, 2023). According to the reports, the chief impetus was not so much the actual generation of the tracks but the methods used to artificially manipulate streaming numbers. This demonstrates a secondary concern associated with AI-driven music: if such content can be rapidly generated and posted in bulk, dishonest actors could exploit the system to gain illicit profits. Hence, the uproar is as much about policing “fake” engagement as it is about the legitimacy of the compositions themselves.

Simultaneously, growing suspicions about passive or utilitarian music playlists on streaming services also show potential ways these technologies might be deployed, arguably to the detriment of professional musicians. Spotify, for instance, has been the subject of a theory that it intentionally inserts AI-generated artists into curated playlists. These supposed “artists” have no social media presence or identifiable public image, and the overall musical experience skews toward minimalistic or atmospheric music (Gooden, 2024; Beato & Gioia, 2024). While the claim remains unproven, it reflects wider anxieties that powerful streaming platforms might eventually eliminate the need for human performers (and the accompanying label royalty obligations) by directly populating playlists with AI’s extensive and cost-effective output. Whether or not this hypothesis holds, its mere existence draws attention to the tension around who should be rewarded for the stream of monetized, yet algorithmically derived, content.

Such apprehensions parallel numerous headline-generating incidents over the past few years, showcasing the scope of these issues. One of the earlier controversies involved Jay-Z, whose record company attempted to remove YouTube clips of him purportedly rapping new lyrics that had been synthesized

through deepfake technology. Although the actual copyrighted sound recordings were not sampled, the label contended that the AI performance unlawfully imitated the rapper's distinctive vocal identity (Statt, 2020). The controversy clarified many of the difficulties in demarcating the boundary between protected expression and fair use, especially when a voice is electronically reconstructed.

Comparable concerns arose around Capitol Records signing, then rapidly dropping, FN Meka—an AI-driven virtual rapper (Kaur, 2022). This incident generated debate on biases inherent in AI tools, particularly those that rely heavily on training data. When the virtual rapper's content featured racial stereotypes and references to police brutality, substantial backlash ensued, revealing the reputational liability music labels face when they sponsor synthetic projects. This series of events showcased that AI cannot be treated merely as a neutral creative entity: those who design and deploy it carry legal, ethical, and market accountability for outputs that can appear exploitative or disrespectful. Such issues speak to the conversation about the acceptance of AI-generated music. In 2023, for example, the Grammy Awards made explicit that only music featuring significant human authorship would be considered for recognition (Edwards, 2023). The Recording Academy clarified that songs made purely via algorithmic composition without human input were ineligible, thereby affirming the institution's commitment to preserving a human-centric standard of creativity. While that may not transform the direction of the entire field, it exerts a meaningful signal of how major industry gatekeepers intend to classify—or in some cases disavow—fully machine-made content. On the opposing side, even though certain controversies revolve around bans and prohibitions, others have embraced more collaborative resolutions. Google and Universal Music Group, for instance, began discussing a potential licensing strategy to permit fans and creators to produce "deepfake" tracks with authorized usage of an artist's voice. Such an arrangement would presumably funnel royalties to both the rights holder and the technology providers (Roush, 2023). Instead of antagonizing the technology, this approach illustrates the possibility of consensus-based commercial models that integrate new forms of music production without

undermining an artist's dignity or livelihood. Rather than solely relying on litigation, certain companies appear prepared to create frameworks that share responsibility and revenue. To grapple with these challenges preemptively, YouTube has formed what it refers to as a Music AI Incubator (Garcia, 2023). By collaborating with established artists and with Universal Music Group at the corporate level, YouTube endeavors to chart a space where creators can experiment with AI's capabilities while ensuring that moral and financial rights remain secure. In tandem with such efforts, Deezer has begun tagging tracks that are suspected to contain AI-generated elements to provide an added layer of transparency for listeners (Deezer, 2025). This move aims to assure users, and indeed advertisers and stakeholders, that they are aware when a piece might be synthetic rather than performed by a living vocalist. The possibility of even more sophisticated detection algorithms looms, with streaming platforms maintaining they will integrate and refine classification systems to monitor the authenticity of music in their catalogs. Controversies can also flare when AI steps into the realm of legacy artists. In 2023, Timbaland previewed a piece that included an AI-based recreation of the late Notorious B.I.G.'s characteristic flow (Robinson, 2023). Reaction among fans oscillated between intrigue and disapproval. Some acknowledged the novelty, while many others believed it overstepped ethical boundaries by reviving an artist's voice after his passing without comprehensive consent from the estate or the artist himself. In parallel, a comparable but more authorized use of AI technology saw the Beatles release "Now and Then" in 2023—an unfinished piece based on John Lennon's demo recordings. By deploying software to isolate and purify Lennon's vocals, Paul McCartney and Ringo Starr were able to incorporate them into a fully realized composition with the blessing of Lennon's estate (Welch, 2023). While the Beatles' example is a more ethically mindful approach to revitalizing older content, it demonstrates how quickly these nascent technologies can veer into questionable territory should the estate or living members not grant explicit consent. The debates around these experiments revolve around moral and philosophical concerns: Who holds the right to resurrect a voice that belongs to someone who can no longer consent? Is this a tribute, or does it cross a line into exploitation? Such endeavors thread the

needle between sincere homage and unauthorized use of a distinctive vocal signature. In contrast, the Beatles' posthumous collaboration with the late John Lennon's preserved vocals indicates that obtaining estate approval can render AI restoration a more acceptable or at least less contested process (Welch, 2023). These multifaceted developments are by no means restricted to Western markets alone. In China, the tech giant Tencent has generated—and widely distributed—over a thousand tracks featuring AI simulations of human singers, one of which has apparently exceeded 100 million streams (Stassen, 2024). Such accomplishments point to an environment in which the mass production of AI-based tunes is not merely hypothetical but already integrated into mainstream listening habits. This scenario reiterates that ethical and legal quandaries are likely to escalate in direct proportion to the commercial viability of AI-generated output. Notably, China has also been proactive about regulating "deep synthesis" technologies. In 2023, legislation demanded explicit labeling and, in certain circumstances, prior permission for the digital reproduction of someone's voice or likeness (China Briefing, 2023). The impetus behind this law appears to be an explicit desire to guard against fraud and deceptive impersonations—concerns that certainly extend beyond music but find a noteworthy application in the domain of AI-based vocals. By imposing administrative requirements, Chinese regulators have effectively recognized that a personal voice is an attribute worthy of the same protection as personal data or sensitive biometric markers.

Meanwhile, the European Union has endeavored to develop the first large-scale legislative blueprint for AI. Its AI Act, passed in late 2024, aims to govern transparency, accountability, and risk classification for all types of AI systems (European Parliament, 2023). But cultural groups have voiced serious worries that the legislation neglected the intricacies of copyrighted content used in training procedures. Indeed, certain lawmakers have labeled it a "devastating loophole," noting that text and data mining exceptions might enable developers to vacuum up extensive catalogs of music, thus raising the specter of mass unlicensed usage. While the EU's AI Act may be a foundational measure, it is evident that supplementary directives or amendments will be required to address the particularities of creative content— showing the friction that arises when

governance seeks to facilitate technological advancement without compromising long-standing traditions of moral rights. The United Kingdom underwent a comparable reckoning when it briefly considered a broad exception that would have allowed copyright works to be text- or data-mined for AI applications irrespective of licensing (Berger, 2025). Intense opposition from the creative sector persuaded lawmakers to abandon the proposal by early 2023. In place of the blanket exception, the British government is now encouraging a more cooperative approach, bringing AI developers and creative representatives together to develop a workable code of practice that fosters development while preserving the economic and moral interests of performers, songwriters, and producers.

Beyond these legal and policy matters, tangible industry skirmishes have erupted, further spotlighting the friction. The Recording Industry Association of America (RIAA) has pursued litigation against AI startups—companies like Suno and Udio—for allegedly engaging in wholesale, unauthorized replication of copyrighted recordings to train their machine learning algorithms (Pearson, 2024). From the RIAA's perspective, no matter how "transformative" or abstract the training processes might be, systematically gathering thousands of protected tracks likely constitutes infringement. The startups retort that data analysis to discern patterns and musical styles is wholly distinct from redistributing the works themselves and may align with "fair use." The final verdict in these cases will help shape the direction of how far copyright holders can stretch the concept of infringement when faced with emergent AI-driven content creation tools. In a related legal confrontation, publishers have targeted AI enterprises that appear to have trained language models on vast databases of textual lyrics without permission (Ingham, 2023). In suits such as UMG v. Anthropic, the dispute revolves around whether digital reproduction of entire lyrics within training data is legitimate, especially if the model occasionally reproduces verbatim or near-verbatim passages. These scenarios prompt the court to examine both the boundaries of fair use and the definitional differences between ephemeral "learning" copies and final user outputs.

Some creators, however, have chosen a more constructive route. The artist Grimes, for instance, granted the public permission to utilize her digitally emulated voice for original tracks, with the condition that she receive 50% of associated royalties (Romo, 2023). This unique arrangement is a model in which the performer explicitly opens her vocal identity to co-creation in tandem with generative tools, thus maintaining a semblance of control and ensuring direct compensation. By consenting to the use of her artificial vocals, Grimes effectively takes a position in the economic supply chain. This example contrasts sharply with the more confrontational stances—such as takedown notices or lawsuits—seen elsewhere, indicating that not all artists view AI as a purely threatening phenomenon. Nonetheless, the very fact that these examples spark such extensive debate demonstrates how emotional and ethically precarious it is to blend the artificial and the authentic in music creation. In parallel, the Grammys' hardline declaration that "only human creators" can win their accolades points to a prevailing desire to uphold the intangible quality of human artistry even as technology becomes more deeply enmeshed in composition. The evolving conversation involves balancing the impetus for innovation—and the potential for new sonic landscapes—against the principle that music has cultural and emotional value arising from its human origin. If, however, such values are primarily intangible, to what extent do we allow ourselves to draw bright lines defining "human-only" creative territory? All these crosscurrents point to a future in which the mix of AI systems and the creative workforce can no longer be considered tangential or speculative. Many of the events from 2020–2024 and beyond have already manifested real-world consequences: from entire catalogs of AI-generated work flooding streaming services to major lawsuits shaping the parameters of permissible AI training practices to legislative experiments in states like Tennessee and nations like China grappling with how best to protect personal attributes—voice, image, style—and the music itself.

In addition, the open questions regarding authorship become more urgent as technology marches forward. Traditionally, music copyright laws revolve around the premise of a "human author," yet legal experts (Sturm et al., 2019) acknowledge how quickly that foundation may fall short for AI-centric workflows.

That begs a broader societal conversation: If the future sees AI advancing to the point of full creative autonomy, how do we fairly allocate credit and compensation? Will we cling to a legal fiction of “the user as the author,” or do we need brand-new constructs that account for algorithmic originality? While consensus is elusive, many point out that the idea of purely AI-crafted music is neither futuristic nor hypothetical anymore. It exists—and is disseminated—in a growing number of commercial channels. The labyrinth of issues is compounded by the difficulty in quantifying the magnitude of an AI’s creative contribution versus the human impetus or refinement. Some might argue that humans supply the prompts, interpret the results, or tweak the output, thus ensuring sufficient human “spark.” Others note that generative algorithms are swiftly reaching a degree of sophistication where minimal instructions can lead to elaborate, stylistically authentic compositions. Tying the conversation back to purely legal language, authenticity may rest on proving that “human authorship” is truly present and operational, though the threshold for that presence remains ambiguous. This can become a philosophical (rather than purely juridical) debate about what it means to be a creator in an era of advanced computational systems. Even from an economic vantage, the ramifications are enormous. If AI tools can produce vast libraries of instrumental or vocal tracks, labels might see a diminished need for certain session musicians, background vocalists, or even established performers who command higher royalties or upfront fees. At the same time, new opportunities might emerge for artists willing to harness AI as a supplementary resource, such as co-creation frameworks where both the code and the human performer share “authorship.” We have already observed both acceptance (e.g., Grimes’s partnership model) and vehement rejection (e.g., Spotify’s removal of suspicious AI tracks and the Jay-Z takedowns) of these possibilities.

As we look ahead, certain patterns have come into clearer view. One is the emphasis on consent, both from a moral rights perspective—where an individual’s voice or likeness is recognized as an intrinsic part of their persona—and from a broader regulatory perspective, which stresses transparency and labeling requirements. Another emerging pattern is compensation, illustrated by

explicit licensing avenues and revenue splits. Similarly, we witness the friction between general “fair use” doctrines and large-scale data mining approaches that train AI by ingesting copyrighted works. Yet, for all the disputes and legislative experiments, artificial intelligence in music is not reverting to irrelevance. On the contrary, its momentum seems unstoppable, reshaping the creative process and industrial frameworks alike. The questions raised by these case studies are therefore both practical and philosophical: whether it is permissible to clone a departed artist’s voice, how to assess which entity is the rightful copyright holder of an AI-generated piece, whether an inherently non-human intelligence deserves authorship, and how streaming platforms can guard against oversaturation of algorithmically produced tracks while still fostering innovation. A definitive answer to these issues remains elusive. Nonetheless, the unfolding legal controversies, real-world incidents, and forward-looking legislation collectively indicate that the conversation is not just about passing trends but about tectonic changes withing the very core of the industry. While contemporary AI-driven music depends mostly on human cues and oversight, it is not implausible that future applications might move toward near-complete automation. If so, the doctrines of copyright, personality rights, and fair use may need rethinking in a comprehensive way. Whether it is the Elvis Act in Tennessee championing clear protections for one’s voice and image or major streaming services grappling with the influx of synthetic compositions, each example consolidates the understanding that the tension between man and machine in the musical domain is more than mere novelty. The legal and ethical inquiries remain fluid, but one reality is clear: the intersection of AI and music is already drastically reframing how we define creativity and ownership. The world’s legislatures, courts, platforms, and individual artists are all key players in deciding where those lines are drawn. The ongoing task is to establish guardrails and principles that honor both technological advancements and the human spirit of artistic expression—no small feat amid the exponential pace of AI’s evolution.

CHAPTER 3

CASE STUDY: MUSICIANS FROM TURKEY

3.1. METHODOLOGY & SAMPLING

This study adopts a qualitative methodology to explore how musicians engage in creative processes, especially in relation to AI tools. Because understanding how musicians engage in creative processes with artificial intelligence (AI) tools calls for a research approach that can capture complex, contextual, and subjective experiences. Qualitative research provides exactly this kind of deep, nuanced insight. According to Creswell (2018), qualitative research is “an approach for exploring and understanding the meaning individuals or groups ascribe to a social or human problem.” Instead of testing hypotheses or measuring variables in isolation, qualitative inquiry seeks to “honor an inductive style, a focus on individual meaning, and the importance of reporting the complexity of a situation.” In the context of musicians co-creating with AI, where creativity, technology, and personal interpretation intertwine, a qualitative methodology is well suited to uncover how and why these interactions occur. This discussion will justify the use of a qualitative case study approach for such a study, define key terms, and explain why this methodology is especially appropriate given the nature of AI tools in contemporary musical practice and the planned use of thematic analysis.

Qualitative research is distinguished by its interpretive and contextual orientation. It is defined as a “systematic scientific inquiry which seeks to build a holistic, largely narrative, description to inform the researcher’s understanding of a social or cultural phenomenon (Creswell, 2018).” Rather than relying on numerical data and isolated variables, qualitative methods emphasize natural settings, and the meanings participants assign to their experiences. This means that researchers allow insights to arise from interviews, observations, and documents, rather than imposing strict predefined measures. Such an approach is inherently flexible and emergent, allowing the study design and understanding to evolve as new insights are gathered. A hallmark of qualitative methodology is its grounding in an

interpretivist paradigm. Mason (2002) notes that qualitative approaches share a concern for how phenomena are *“interpreted, understood, experienced, produced or constituted”* by individuals. They use research methods that are *“flexible and sensitive to social context”* and analytic strategies that account for *“complexity, detail and context”*. This orientation is crucial for studying creative processes with AI, because it acknowledges that each musician’s interaction with technology is shaped by personal interpretation and the specific social/cultural context of their music-making. Quantitative approaches, in contrast, often seek to isolate variables and remove researcher involvement, which can strip away the very context and meaning that are central to creativity studies. By using open-ended interviews and observations, qualitative research captures rich detail and direct quotations from participants, with the researcher often serving as an “integral part of the investigation”. This depth of data is necessary to understand the nuanced ways in which AI tools influence (and become part of) the creative thinking of musicians. Qualitative research is well-suited for exploratory, meaning-focused inquiries. It allows the researcher to delve into “complexity, detail and context”and to interpret how participants themselves make sense of a phenomenon. Studying musicians working with AI involves complex human-technology interactions, subjective judgments (e.g. what sounds “creative” or “inspiring”), and evolving practices – facets that cannot be reduced to numbers without losing essential information. A qualitative design ensures the study remains open to unexpected insights and can adapt to the discovery of new themes or patterns in the data.

A combination of semi-structured interviews for data collection and thematic analysis for data interpretation was chosen. This approach is well-suited to capturing personal experiences and emerging concerns in the changing digital landscape of music production. A purposive sampling strategy was used to include musicians with varying levels of AI engagement, enhancing the depth and validity of the findings. The following section details the interview method, analytic strategy, sampling rationale, and the broader methodological considerations. Semi-structured interviews were employed as the primary data collection method. This format uses a flexible interview guide that ensures key topics are covered

while allowing the interviewer to probe deeper based on each participant's responses. Such flexibility is important for exploring musician creativity, as it encourages participants to describe their creative routines, inspirations, and feelings in their own words. Semi-structured interviews yield rich, detailed narratives, enabling researchers to delve into participants' thoughts, feelings, and beliefs about a topic. Unlike fully structured interviews or surveys, this conversational approach can adapt to the flow of discussion – an important benefit when interviewing musicians with different backgrounds and levels of AI engagement. For instance, if a participant is highly experienced with AI tools, the interviewer can ask nuanced follow-up questions about specific software or techniques; conversely, for a participant with little AI exposure, the interviewer can explore fundamental perceptions or misconceptions. This adaptability helps gather meaningful data across a diverse sample. In summary, the semi-structured interview offers a balance between guidance and openness, combining the consistency needed for comparability with the freedom to pursue novel insights. Despite their strengths, semi-structured interviews have certain limitations.

They are time- and labor-intensive – interviews often last an hour or more, and transcription and analysis of the open-ended responses can be extremely time consuming. Researchers must invest considerable effort into coding and interpreting the qualitative data. The flexibility of this format means the data can be uneven or subjective; the quality of insights depends on the interviewer's skill in probing and the participant's willingness to share. There is a risk of interviewer bias influencing which follow-up questions are asked and how responses are interpreted. Ensuring trustworthiness thus requires careful interview training, use of an interview guide, and reflexive practices (such as memoing after interviews to acknowledge biases). Moreover, because interviews focus on individual experiences, the findings may not be broadly generalizable in a statistical sense. Instead, the value lies in depth and nuance rather than breadth. Acknowledging these limitations, the study mitigated them by preparing a solid interview protocol, piloting questions, and maintaining a reflexive stance during data collection and analysis. Semi-structured interviews are well-justified in this research on

musicians' creativity with AI. Creativity is a deeply personal and often tacit process, and musicians may have unique ways of describing how they compose, improvise, or collaborate with technology. An interview setting allows them to articulate their creative experiences and concerns openly, something a survey or structured instrument might not capture. In particular, because the participant pool spans musicians from those who *do not use AI at all* to those who *heavily integrate AI* into their music-making, a semi-structured approach is ideal. It provides enough structure to ensure all participants discuss common themes (e.g. their creative workflow, views on AI in music) while also giving space to explore topics most salient to each individual. This was important for fairness and depth – for example, non-AI-using musicians could elaborate on why they avoid such tools, whereas AI-engaged musicians could detail specific creative advantages or challenges they encounter. Other researchers in creative industries have similarly chosen semi-structured interviews to study emerging technologies; for instance, Finze et al. (2024) used in-depth interviews with music producers to explore how generative AI impacts their professional identity. That study benefited from open-ended discussions that revealed emotional and cognitive responses (ranging from enthusiasm to resistance) to AI. By using semi-structured interviews in our study, we ensure a nuanced, comparative understanding of how different musicians perceive and experience creativity in the context of AI. The interview data were analyzed using thematic analysis, following the framework established by Braun and Clarke. Thematic analysis is defined as a method for identifying, analyzing, and reporting patterns or "themes" within qualitative data. It involves a systematic process of coding data and grouping codes into themes that capture important aspects of the phenomenon. Braun and Clarke (2006) outline six iterative phases: (1) familiarization with the data (transcribing and reading interviews), (2) generating initial codes, (3) searching for themes by collating codes, (4) reviewing and refining themes, (5) defining and naming themes, and (6) producing the final report. This rigorous yet flexible process enables researchers to distill large volumes of narrative data into coherent themes that address the research questions. Thematic analysis was chosen because of its flexibility and suitability for exploratory research on creative

practices. Unlike some qualitative methods tied to specific theoretical frameworks, thematic analysis is theoretically agnostic and can be applied within different paradigms. This makes it an ideal “starter” analytic method for a study investigating a relatively new area (musicians’ use of AI) where we seek to uncover patterns without a pre-existing model. Braun and Clarke emphasize that thematic analysis’s inherent flexibility is a strength, not a weakness, as long as the researcher’s epistemological position is clear. In our context, we adopt an interpretivist stance, aiming to understand the subjective experiences of musicians; thematic analysis aligns with this by allowing an interpretive layering over descriptive coding. Notably, Braun and Clarke’s later work showcase the importance of a reflexive approach to thematic analysis. Rather than treating themes as simply emerging from data, the researcher actively engages in interpreting and shaping the analysis. We embraced this reflexive thematic analysis (Braun & Clarke, 2019) by keeping analytic memos and discussing our coding decisions. This approach acknowledges that our backgrounds (as researchers interested in music and technology) can influence theme development, and it encourages transparency about this influence. Thematic analysis also offers practical advantages for this study. It can handle a large, complex dataset and summarize key features while preserving depth. For example, dozens of pages of interview transcripts can be distilled into a set of themes like “AI as Creative Partner” or “Fears of Loss of Authenticity,” each supported by multiple quotes. The method differentiates both commonalities and differences in participants’ experiences, which is essential given our diverse sample. It can reveal shared themes across all musicians (e.g., the importance of inspiration) as well as points of divergence (e.g., AI-using musicians might emphasize efficiency, whereas non-AI users stress traditional skills). Additionally, thematic analysis tends to generate unanticipated insights— in an evolving field like AI in music, this is valuable because participants may raise issues the researchers hadn’t considered (such as ethical dilemmas or industry trends). Overall, thematic analysis provides a structured yet emergent way to interpret the qualitative data, yielding a rich thematic account of musician creativity.

We drew specifically on Braun and Clarke's guidelines to ensure rigor in the analysis. This included double-coding some transcripts and team discussions to refine the codebook (a practice also used by recent studies of AI in music creation). For instance, Newman et al. (2023) describe creating an initial codebook through a mix of inductive and deductive coding on interviews with AI-focused composers, then iteratively refining it as themes evolved. Likewise, in our study, we allowed themes to be informed both by participant narratives (inductive coding – letting new themes arise from the data) and by concepts from existing literature on creativity and technology (deductive coding – looking for expected topics like "workflow changes" or "creative inspiration"). This hybrid approach is consistent with recommended thematic analysis practices when investigating a novel phenomenon with some theoretical background. By the end of the process, clear themes were identified and defined, each supported by illustrative excerpts from the interviews. These themes form the basis of the findings discussed in the next chapter. The use of thematic analysis is justified not only by its popularity in qualitative research, but by its successful application in similar research on creative professionals and AI, giving confidence that it can robustly capture the nuances of our data. The study employed a purposeful sampling strategy to select participants. Rather than a random sample, we deliberately recruited musicians with varied levels of engagement with AI tools in their creative process.

This included, for example, some traditional musicians or composers who have never used AI in making music, some who have experimented minimally, and others who actively incorporate AI (such as machine learning composition software or intelligent instruments) into their workflow. The rationale for this sampling strategy is rooted in the concept of maximum variation sampling, which seeks to capture a wide range of perspectives to identify common themes and unique patterns. By including musicians across the spectrum— from AI skeptics to AI enthusiasts—the research can explore how creativity is experienced under different conditions, thereby constructing a more holistic understanding of the phenomenon. Recruiting a heterogeneous sample enhances the credibility and validity of the study in several ways. First, it helps in identifying which aspects of

creative experience are essential (shared across all musicians) and which aspects are variable (differing by level of AI use). If a theme (for instance, “valuing originality”) emerges consistently among those who use AI and those who don’t, it suggests a robust insight into musician creativity that holds across contexts. On the other hand, differences between groups (for example, only AI-heavy users discuss “algorithmic inspiration,” whereas non-users talk about “human touch”) point to how technology engagement shapes creative practices. Including both ends of the spectrum therefore provides a form of theoretical contrast that sharpens our analysis. It guards against the research being skewed by a single type of musician; a study on only tech-savvy electronic producers might overlook concerns that classical instrumentalists have, and vice versa. By designing the sample to be diverse, we answer the research questions more comprehensively and improve the potential transferability of the findings to various subgroups in the music industry. In practice, participants were selected through networks in the music community and referrals, aiming for roughly equal representation of different AI engagement levels (e.g. a few from each category of non-users, moderate users, and heavy users). We also balanced other characteristics (genre, age, professional status) as much as possible to avoid confounding factors, though the primary criterion was their experience with AI in music-making. During recruitment and data analysis, we monitored for data saturation—the point at which no new themes are emerging—within each subgroup and across the sample. We found that having a range of participants enriched the data: the AI-novice musicians often voiced skepticism or unfamiliarity that prompted explanations of creative fundamentals, while the AI-expert musicians raised sophisticated points about collaborating with algorithms. This situation allowed the research to probe the edges of the phenomenon, revealing both common ground and tensions. Prior studies support the value of such varied sampling. For example, a multi-case study on AI in music composition explicitly selected composers from different traditions (classical, electronic, film scoring, etc.) to ensure a wide coverage of creative contexts. The authors note that examining a phenomenon across diverse cases builds a stronger basis for understanding and theory-building. Similarly, our inclusion of musicians with

different AI engagement levels strengthens the study's interpretative power and practical relevance: any recommendations or conclusions drawn are more likely to be applicable to the broader field of musicians, not just a narrow slice.

This sampling strategy contributes to the trustworthiness of the research. In qualitative terms, validity is often discussed as the credibility or authenticity of the account. By showing that the study considered multiple viewpoints (from AI-embracing to AI-averse musicians), we demonstrate a conscientious approach to evidence. It reduces the chance that our findings are an artifact of one type of musician's outlook. Instead, themes that survive across this variation can be viewed with greater confidence, and where perspectives diverge, we can explicitly acknowledge and analyze those differences. This aligns with best practices in qualitative research which recommend seeking contrasting cases or "disconfirming" evidence as a way to challenge and refine emergent findings. In summary, the purposeful inclusion of musicians with varied AI involvement is a deliberate design choice to enrich the data and bolster the study's validity by ensuring that the creativity we capture is not one-dimensional, but reflective of the diverse realities in today's digital music landscape.

Studying musician creativity amid rapid technological change poses unique challenges— and here, a qualitative approach proves especially suitable. The rise of AI and other digital tools has introduced new experiences, uncertainties, and debates in the music world. Many of these are deeply personal or context-specific: a songwriter might feel anxiety about AI "stealing" the creative soul of music, while another might feel empowered by AI's ability to spark ideas. These nuanced, subjective sentiments are not readily measurable by quantitative methods, but they can be richly explored through qualitative inquiry. Qualitative research, by its nature, excels at gathering participants' lived experiences, perceptions, and the "hows" and "whys" behind their behaviors. Instead of asking how many musicians use AI, we ask how AI is influencing their creative process, and why they choose to embrace or avoid certain technologies. This focus on meaning and narrative is very important for understanding creativity, which is a

multi-directional human experience that is emotion, identity, skill, and context combined.

One challenge in studying creativity is its intangible and highly individualized character. Creative processes often unfold internally (in thoughts, inspirations) and are influenced by an artist's history and values. In a rapidly changing digital landscape, musicians are continually negotiating the role of new tools in these processes. Qualitative methods like in-depth interviews and thematic analysis allow researchers to capture these negotiations in the artists' own voices. For example, during our interviews, participants shared anecdotes that reveal their personal journeys with technology – one producer described initially resisting auto-generation tools for fear of losing authenticity and later finding a way to integrate them without "losing his sound." Such insights illustrate concerns and adaptations that simply would not surface through a multiple-choice questionnaire. They reflect emerging phenomena: issues of creative authenticity, human–AI co-creation, skill displacement, and ethical considerations are all evolving alongside technology. By engaging with musicians qualitatively, we can document and understand these phenomena as they unfold.

Moreover, qualitative research is responsive to change. The interview conversations can pivot when a participant brings up a new trend or concern, enabling the study to incorporate that information in real time. This is important in the digital era, where the landscape can shift even during the research project (for instance, a new AI music tool might launch and become a talking point). The open format of semi-structured interviews ensured that musicians could introduce topics we hadn't pre-identified but that matter to them. Indeed, our participants raised themes like AI's impact on their artistic identity and future careers, which reinforces findings from other studies that creative professionals experience emotional and identity-related impacts from technology change. Finze et al. (2024) found that music producers exhibited diverse emotional and behavioral responses – from enthusiasm to resistance – when confronted with AI in their field. Capturing such responses requires a method that lets participants reflect and explain in depth. Similarly, in our study, qualitative data were able to

illuminate how some musicians see AI as a collaborative partner expanding their creativity, while others see it as a threat to their role or a source of ethical dilemmas. These rich descriptions and personal interpretations provide a grounded understanding of creativity under digital transformation, something that statistical analyses or experiments (which isolate variables) would struggle to achieve.

Finally, qualitative methods contribute to the credibility and empathy of the research on a topic like musician creativity. By presenting direct quotes and stories from musicians, the study gives readers and stakeholders (like other artists, educators, or technologists) a chance to hear authentic voices. This is vital in a domain where changes can be met with skepticism or fear; understanding the human side of technological change can inform more sensitive policy and tool development. For instance, if many musicians voice a concern about “loss of human touch,” developers of AI music software might take that into account in design or user support. Thus, our methodological choice is justified not only academically but also pragmatically. It ensures that the research captures the complex reality of creative work in the 2020s – a reality where digital and human elements are working together and where personal experience is key to understanding the impact of innovation. In summary, the qualitative approach (semi-structured interviews analyzed via thematic analysis) is ideally suited to navigate and document the evolving landscape of music creativity, giving full attention to the personal experiences, meanings, and concerns of musicians as they adapt to or resist the winds of technological change.

Table 1: Interviewee Information Table

Interviewee Code	Age	Role in the Music Industry	Other Jobs Besides Music	Interview Medium	AI Usage
I-1	20-30	Drummer	Pilot	In-Person	Doesn't use
I-2	20-30	Vocalist	SAP Advisor	In-Person	Doesn't use
I-3	20-30	Producer Guitarist	Not Specified	In-Person	Doesn't use
I-4	20-30	Producer	Writer	Phone Call	Commercial
I-5	40-50	Composer Audio Engineer	Academic	In-Person	Commercial
I-6	50-60	Composer Orchestra Conductor	Not Specified	In-Person	Non-Commercial
I-7	40-50	Drummer	Not Specified	In-Person	Non-Commercial
I-8	30-40	Music Educator	Not Specified	In-Person	Doesn't use
I-9	40-50	Guitarist	Not Specified	Video Call	Doesn't use

The interviewee information table provided discloses the various pieces of information regarding the interviewee's; their assigned interviewee codes, their ages, alongside their backgrounds both in and outside of the music industry and finally if they use AI commercially, non-commercially or not at all to provide context for the upcoming discussions regarding their perspectives.

3.2. MUSICIAN APPROACH TO CREATIVITY

Musicians' perspectives on creativity are continuously shaped by technology, a theme that emerged strongly in interviews with nine artists. In an era of rapid digitalization and artificial intelligence (AI), these creators find their creative process in flux – at times empowered by new possibilities, at other times constrained by new pressures. This section explores how musicians perceive and experience creativity under the influence of digital tools and AI, investigating whether these changes are viewed as detrimental or transformative. In line with Attali's thesis that music can herald both "a new, liberating mode of production" and "the menace of a dystopian possibility", the interviewees voiced a dual reality: technology opens creative frontiers even as it introduces new tensions. Consistent with Becker's (1982) sociological view that art is never made in isolation but through networks of people and tools the musicians' "art world" now includes algorithms, digital platforms, and AI as collaborative forces in music-making. Their comments reveal thematic shifts in how they discover music, produce work, and uphold artistic authenticity in the digital age, a central tension between professionalization, experimentation, and algorithmic influence on creative freedom.

3.2.1. Algorithmic Discovery & Creativity

Several musicians discussed how digital platforms have revolutionized musical discovery and inspiration. Streaming services, social media, and online communities allow artists to explore an unprecedented range of influences.

> Digitalization has impacted how I discover music. Initially, we were using LimeWire, where the discovery process was random and spontaneous. Later, Spotify and Apple Music changed my method of discovering new music entirely. What I listen to directly influences the kind of music I want to make. (I-1)

The quote from one interviewee displays the availability of inspiration for the contemporary musician, largely facilitated by algorithms. Such comments illustrate how algorithmic curation can play a positive role in creative inspiration by linking musicians to diverse content. This aligns with Beer's (2017) observation that algorithms now act as cultural gatekeepers, filtering the overwhelming "noise" of content into a "reductive and smoothed-out" stream tailored to our taste By serving up personalized suggestions, streaming algorithms can broaden an artist's palette – effectively introducing new sounds into their creative vocabulary – but only up to a point.

Musicians are also wary of the limitations of algorithm-driven discovery. Algorithmic discovery's influence over creativity often ends up clashing with risks of homogenization. Several noted that the same algorithms promoting convenient discovery can create echo chambers of familiarity. Following is a quote which exemplifies how algorithmic standardization has the potential for limiting creativity;

> Music isn't something that you produce just to fulfill algorithmic demands or commercial standards. When you try to produce something merely to quickly reach listeners or fit a particular format, the outcome is often poor. Occasionally, something good might happen by chance, but usually, the result is formulaic and superficial—something like a Serdar Ortaç song, made from just a few simple notes. Just because it's widely consumed doesn't mean it's artistically valuable. A genuine musician or artist doesn't create with the goal of catering to large crowds or algorithms; their creations come from within, driven purely by sincere emotion and genuine creativity. (I- 8)

This aligns with Bonini and Gandini's (2019) concept of editorial-to-algorithmic gatekeeping, where recommendation systems not only reflect but actively shape cultural norms.

3.2.2. Digital Tools & Expanding the Creative Toolkit

Technological advancement in music production — from multitrack software to AI-assisted tools — has allowed artists to extend their creative reach. An example would be from the following quote;

> Before university, I had neither a sound card nor software on my computer. Once I started using software like Cubase, my creativity drastically changed. I could layer multiple instruments, experiment, listen, modify, and truly become a musician, not just someone playing a single guitar part. (I-3)

For this musician, access to software like Cubase marked a turning point in their musical development, shifting their identity from "just a guitarist" to someone capable of arranging full compositions using layered instruments and experimentation (I-3). These experiences in regards to the digital toolkit of the musician are often intergenerational, as the quote below would display;

> When I started composing and orchestrating, everything was paper, pen, and piano. But with early digital tools like Atari 1040ST, computers became musical instruments themselves, completely opening new doors in creativity. When I first started composing at age 13, everything was done with paper, pencil, and piano. Then I saw the future early on when we ordered an Atari 1040ST computer from abroad. At that time, people were shocked when I printed sheet music directly from the computer's printer because, back then, sheet music could only be printed in specialized printing houses. This early involvement with digital technology greatly expanded my creative horizons. The computer doesn't make music for you—it's just like a piano or violin, another instrument to master creatively. (I-6)

Similarly, another musician from a different generation spoke about early exposure to digital tools like the Atari 1040ST, which radically expanded their vision of what music could be and positioned the computer itself as an expressive instrument. These reflections reverberate Théberge's (2004) notion of the "network studio," where home-based, software-driven production environments have decentralized creative power from institutional studios to individuals. Yet the accessibility of digital tools has not erased all barriers. For some, the democratization of production accelerates creativity and enables independence, as one interviewee stated;

> Digital tremendously accelerated my workflow, although it slows down some people, it tremendously accelerated mine. The freedom it gives is amazing—being able to cut and shape sounds however I want. Also, digital backup and file sharing immensely speed up the workflow, thereby encouraging creativity. (I-5)

The argument that digitalization speeds workflow, alongside creativity was a recurring one during the interviews, but others warn that the illusion of simplicity can mask a deeper need for musical knowledge. For instance, one artist noted that digital interfaces may encourage experimentation without necessarily instilling understanding — leading to compositions that are technically constructed but lack cultural or instrumental depth;

> Digital tools are infinite oceans of possibilities, but they actually steal musicians' time if you lack foundational knowledge. A musician writing violin parts without ever having played the violin lacks critical cultural and practical understanding. Digital tools don't inherently boost creativity; they might even limit authentic creative exploration. (I-9)

This sentiment mirrors critiques from many scholars that argue that democratization does not guarantee equal cultural competence, and that the tools themselves shape what kind of creativity is made possible.

3.2.3. AI as a Creative Collaborator

The advent of AI technologies has further complicated the creative process. For some musicians, AI serves as a valuable collaborator, particularly in overcoming creative blocks or generating new musical ideas; “I mostly manage all stages of music production myself. AI becomes relevant only when I face creative blocks, serving as a source of inspiration rather than the primary creator." (I-4) These tools are not necessarily perceived as replacing the artist but rather as provoking different ways of thinking or producing, offering stimuli rather than outcomes. This reflects the trend observed by Briot et al. (2020) and Miranda (2021), where AI functions less as a creator and more as a “co-pilot,” expanding the artist’s cognitive field.

Several musicians on the other hand were critical of AI’s role. While open to inspiration from intelligent systems, they were firm on the thought that AI cannot replace the core expressive drive that defines their art, including the same musician from the quote above regarding AI relevancy;

> I create music by experimenting with various genres, from classical to electronic. The emergence of artificial intelligence became a turning point for me. Initially, I didn’t think about integrating AI directly into my art; I was just excited to use it. Eventually, I realized my interactions with AI could deeply inform my artistic process. (I-4)

This distinction resonates with concerns raised in the literature about the devaluation of intentionality and emotion in machine-generated music. Musicians feel a protective instinct toward the creative act, suggesting that the encroachment of AI introduces a tension: is technology merely a tool, or is it becoming a creative agent in its own right? In the interviews, even those who experimented with AI maintained a clear boundary: the artist must remain the final arbiter of creative decisions. They spoke of using AI outputs as raw material to be shaped, filtered through the musician’s own sensibilities. This illustrates an effort to integrate AI in a way that is transformative (enhancing human creativity) without becoming detrimental to artistic autonomy.

3.2.4. AI as a Creative Threat

A distinct aspect of technological influence is the advent of artificial intelligence in music creation, which the musicians approached with a mix of optimism and concern. AI is beginning to feature in their creative process – from intelligent plugins that assist in songwriting to machine learning algorithms that can generate music. Several interviewees described experimenting with AI tools as collaborative assistants. As exemplified by quotes from Interviewee 4 above, for some, AI is transformative: it expands their creative palette by suggesting chord progressions or beats they might not have conceived alone, effectively serving as a source of inspiration.

This reflective use of AI – treating the algorithm as a junior partner or idea generator – was seen as a way to stimulate human creativity rather than replace it. Another interviewee noted that AI-driven tools can handle tedious tasks (like cleaning up audio or stretching a sample to tempo), freeing the artist to focus on the more imaginative aspects of composition (I-5, I-3). In these accounts, AI represents a positive augmentation of creativity, an extension of the digital toolkit that, if used carefully, can accelerate discovery and experimentation in the music-making process.

Conversely, other musicians were wary of AI's growing role, voicing fears that it might dilute artistic authenticity or even encroach on the role of the human creator.

> AI can handle background music or functional sounds well, shrinking the traditional industry of composers providing stock music. Yet, for emotionally impactful and unique compositions, human creativity remains irreplaceable. No matter how advanced AI becomes, music requiring profound emotional expression and depth will always necessitate human involvement. (I-6)

This concern speaks to a broader unease that algorithmic composition might lead to homogenization in music, amplifying trends of formulaic songwriting. It also touches on issues of agency and originality:

"For me, there's an ethical aspect, my artistic conscience prevents me from commercially exploiting something I did not authentically create (I-6)."

Musicians feel a protective instinct toward the creative act, suggesting that the encroachment of AI introduces a tension – is technology merely a tool, or is it becoming a creative agent in its own right? In the interviews, even those who experimented with AI maintained a clear boundary: the artist must remain the final arbiter of creative decisions. They spoke of using AI outputs as raw material to be shaped, filtered through the musician's own sensibilities. This shows an effort to integrate AI in a way that is transformative (enhancing human creativity) without becoming detrimental to artistic autonomy.

The musicians' approach to creativity in the digital and AI era is one of adaptive negotiation. They continuously integrate new technologies into their creative practice, finding them both transformative and challenging. Digitalization has profoundly shifted how they discover music (opening a world of influences while introducing algorithmic filters), how they produce music (empowering DIY creation while upping professional expectations), and how they define authenticity and creative freedom (forcing them to consciously balance personal expression with external pressures from platforms and markets). These interviews illustrate that far from rendering creativity deterministic or mechanistic, the presence of technology and AI in music has spurred musicians to reflect even more on their creative values. The concepts of discovery, production, and authenticity are inextricably linked – as technology reshapes the workflow of music, it simultaneously reshapes artists' notions of what it means to be creative and true to their art. Mirroring Attali's vision, the changes are neither wholly detrimental nor purely transformative; they are ambivalent and dynamic, requiring musicians to continually reinterpret their role as creators. Musicians in this study consistently reiterated that emotional authenticity as a concept remains the defining feature of meaningful creativity, which will be elaborated upon further in the next chapter.

3.3. CONCEPT OF AUTHENTICITY THROUGH MUSICIAN

Authenticity in music is a complex and often contested concept, yet it remains a core ideal for many artists and audiences. Scholars have long debated whether authenticity signifies fidelity to a “true self” or is merely a social construct. For instance, Bialystok (2014) argues that the popular demand to locate a singular “true self” behind authentic expression poses philosophical challenges. Others have even dismissed authenticity as an outdated myth or marketing tool. However, recent perspectives suggest that authenticity, while not absolute, provides insight into how musicians create meaningful connections and empathy through their art. In practice, authenticity continues to be a vital and defining aspect of a musician’s identity, with artists striving to be true to their musical roots and personal vision. Interviews with nine musicians confirm that, despite its nuanced nature, authenticity is central to how they understand their craft.

Through a thematic analysis of these interviews, this section explores how musicians define and experience authenticity in music-making. Key themes that emerged include technical competence, artistic intention, originality and self-expression, cultural grounding, and the role of technology (especially AI). The following sections examine each of these facets in turn, showing that authenticity for these musicians stems from a blend of skill, sincere intent, personal experience, and the ability to emotionally resonate with others.

3.3.1. Technical Mastery as the Foundation of Authenticity

Several musicians stressed that authentic music-making begins with technical mastery of one’s instrument and craft. Following quote elaborates on how competence and skill were seen as enabling genuine expression;

> To me, authenticity means competence in what you're creating. For example, we cover songs, covering involves adding something of our own, but doing this poorly doesn't count as being original. You have to perform the original extremely well first, and then add something unique to create

> authenticity. If you lack skill, your ability to produce something authentically original decreases. (I-2)

Only by fully controlling their medium can musicians deliver music that honestly represents their ideas and feelings. One interviewee explained that if you don't have the foundational skill, it's hard to create something genuinely original. (I-1)". This view resonates with Bourdieu's notion that cultural production requires accumulated capital (skills, knowledge) to be recognized as legitimate. In the context of music, a high level of instrumental or compositional skill earns the artist credibility, which in turn bolsters perceptions of authenticity among peers and listeners.

As one guitarist put it, "If you haven't paid your dues learning your instrument, it doesn't feel authentic" (I-3). Mastery alone does not guarantee authenticity, but the interviews suggest it is a necessary foundation: technical competence provides the means for artists to express themselves without compromise. In essence, skill enables sincerity. Musicians believe that when technique and "feel" converge, the music can truly be "real" – a performance where prowess serves the emotional message rather than masking inadequacies (I-3, I-7). Technical excellence, then, is not about flashy virtuosity for its own sake, but about being able to deliver an honest musical statement reliably. As Becker's sociology of art reminds us, what counts as authentic artistry is often collectively agreed upon within an "art world" and typically those agreements reward competence and expertise.

3.3.2. Originality and Sincerity in Musical Authenticity

Authenticity was also strongly linked to originality and being sincere, as opposed to merely imitating others. Musicians interviewed consistently distinguished authentic creativity from formulaic reproduction. One interviewee criticized the temptation to chase trends, noting; "Authenticity comes from the intent behind the music. If the music feels crafted solely for commercial success or popularity, it starts losing authenticity." (I-3)

Instead, these artists equate authenticity with bringing something of themselves into the music – a unique style, story or perspective. Another musician emphasized the importance of artistic originality, saying “authentic music has to have a piece of your own soul in it” (I-5). This aligns with the idea that musicians make great efforts to be true to their musical “roots” and personal inspirations in order to create music they believe is original and authentic. Indeed, authenticity, alongside creativity, serves as a primary milestone by which musical works are judged.

The interviews revealed a shared belief that being authentic means not being a clone. One artist (I-9) described that every time they felt they had created something truly original, it was rooted in unconventional, socially rejected ideas (I-9). Stating that “Originality comes from the parts of ourselves society often considers dark or nonsensical (I-9). Originality is difficult to achieve because we're always influenced by what's popular or what we already know. suggesting that authenticity involves innovating beyond one’s influences rather than simply replicating them. In this sense, authenticity is understood as a form of personal truth in sound – a quality that emerges when an artist’s individual identity is audibly present in the music. The data repeats Attali’s (2017) critique of the “repeating” era of music, where the emphasis on faithful reproduction (e.g. perfectly copying recordings) stifles originality.

By some, the sense of originality is nuanced: the participants acknowledged that completely inventing a new musical language is rare, especially in the age of AI;

> No music is 100% original anymore. Whenever you look at chord progressions, there are certain three-chord or four-chord structures, and thousands of songs based on them exist. That's why I think it's incorrect to say human music is original and AI-generated music isn't original. (I-5)

However, musicians often stressed authenticity lies in honest self-expression recombining influences through one’s own sensibility, as following quote displays; “Music isn’t just about combining notes or chords. It’s about emotions, thoughts, or even intentional imperfections, something I believe AI

currently can't replicate convincingly." (I-3) In summary, cultivating an original voice however subtle or hybrid with AI is seen as crucial to authenticity. It differentiates the sincere artist from the mere imitator, reinforcing the idea that authentic music carries the imprint of its maker's personality.

3.3.3. Importance of Knowledge & Musical Canon in Authenticity

Across the interviews, different musicians repeatedly asserted that knowing what came before contributes a lot to making an artis and therefore their music, definitively authentic. One interviewee (I-8) put it plainly: "Being original isn't just about being different. It's about taking your place or creating your own space. To do this, you have to understand deeply what came before. Authenticity and originality involve thoroughly analyzing and comprehending past works and adding your unique touch." (I-7) This reflects a common sentiment that authentic music must be created with a deep knowledge of the musical canon. Besides technical knowledge, historical knowledge of the art form is a necessity of authenticity for many.

Same sentiments were also mirrored in the context of style and genre, as one interviewee elaborated prominently;

> Originality and authenticity in music come after you've absorbed many styles, genres, and experiences. Eventually, these diverse experiences blend and distill into something unique, this is true originality. To achieve personal originality, musicians need exposure: reading, traveling, experiencing different cultures, and deeply engaging with various musical genres. (I-6)

In the same vein as knowing music history, knowledge of genre studies, being able to separate one genre over another whilst knowing why in music stands especially important in regards to authenticity. The importance of being able to find similarities in two different genres and having the technical capability to adapt this knowledge to something new was explained by one interviewee through the following quote; "For instance, if you want to be a new Neşet Ertaş, you have to

understand that he had incredible grooves like Stevie Wonder. You have to internalize this understanding to create something truly original." (I-7)

However, contrasting this sentiment, when asked if it was possible to compare the research done by a musician using AI in regards to genre and historical during a creative process to internalized knowledge of the aforementioned subjects, the answer was often a hard ‘no’. Although hard to elaborate and draw conclusions from a general negativity, this ends up pushing the discussion towards the value of the labor one has to spend to acquire the knowledge itself, rather than asking the AI to do the canonical work for them. Again, paralleling the statements of another interviewee who clearly states that a human touch is a “must” (I-3) for authentic music.

3.3.4. Authenticity as Cultural Expression

While the concept of authenticity has universal aspects for these musicians, many also acknowledged the role of cultural grounding in shaping what feels authentic. One quote from an interviewee was able to perfectly encapsulate both the concept of sincerity and cultural backgrounds in regards to authenticity;

> Being true to one’s roots – musical, regional, or ethnic – was seen as a way to deepen authenticity, so long as it comes naturally. "For me, authenticity is connected to using local, indigenous elements in melody. If music carries a genuine sense of 'gönül' (a uniquely Turkish concept meaning heartfelt sincerity), it’s authentic. This sincerity is very difficult for AI or digital tools to replicate effectively. They might mimic, but it wouldn't feel genuinely organic like Neşet Ertaş or Aşık Veysel’s music. (I-8)

In other words, authenticity is about the spirit and intent behind the music, not just the ingredients. However, the musicians were careful to stress that cultural specificity is just one facet of authenticity, not a limiting box. Resisting the notion that authenticity means adhering rigidly to tradition or that an artist is only “authentic” when confined to their native style. Instead, the **consensus** was that authenticity broadens from a deep understanding of one’s roots to create

something personal and contemporary, as exemplified by an aforementioned quote from the seventh interviewee in the previous section.

This perspective treats authenticity through a broad lens: cultural elements contribute to a sense of truth, but the authentic impact lies in how sincerely those elements are used by the musician. Music can thus be culturally grounded yet innovative and globally resonant at the same time. The interviewees agreed that listeners anywhere can detect authenticity in music if the artist's commitment and passion shine through, regardless of whether they understand the cultural references. One artist (remarked on this universal recognition: "When something is real, you don't need to know the language." (I-1). Authenticity, then, transcends cultural boundaries even as it may be rooted in a specific cultural experience. The key is that the artist themselves is deeply connected to what they are doing. In academic terms, while authenticity is often socially constructed and can b**e** "judged" differently by various cultural arbiters at the personal level it comes down to an artist embodying their art in a way that rings true within and beyond their culture.

Authenticity is both a personal and social phenomenon. On one hand, it is deeply personal: the artist's own sense of integrity and sincerity in creation. On the other hand, authenticity is validated through social perception: music only reads as authentic if others feel that sincerity and originality. In the musicians' experience, when they invest their technical mastery, creative originality, and emotional honesty into their work, the result is music that audiences and fellow artists recognize as genuine. This accords with the idea that authenticity (along with creativity) remains a primary criterion by which musical quality is judged. However, the interviews also remind us that claims of authenticity are not immune to context; they can be influenced by cultural norms and even contested (as when using AI or blending genres). Each musician, therefore, finds their own balance in the paradox of authenticity: striving for a pure expression of self, while knowing that authenticity ultimately lies in the ear of the listener.

3.4. IMPACT OF ALGORITHMIC CURATION ON MUSICIAN CREATIVITY

Digital music platforms and Spotify in particular, have transformed how music is circulated and consumed. As algorithmically curated playlists and recommendation systems mediate access to audiences, musicians find themselves operating within what Nieborg and Poell (2018) term a platform-dependent creative economy. This platformization of cultural production reconfigures the context in which music is made: artists must now consider the algorithmic visibility of their work alongside its artistic merit. The social power of algorithms, as Beer (2017) argues, lies not only in code but in the broader logics and rationalities they circulate. In the streaming era, these logics, from metrics dashboards to playlist placements are increasingly parallel with musicians' creative decisions. This section presents a thematic analysis of interviews with nine musicians to critically examine how Spotify's algorithmic curation impacts their creativity. Drawing on both the interview data and the relevant literature, it explores key themes: from creative constraints and data-driven feedback loops to the normalization of formulaic songwriting, the psychological toll on artists, strategies of resistance, and the paradox of creativity under algorithmic governance. Throughout, concepts such as the algorithmic imaginary (Bucher, 2018) and the tension between creative autonomy and optimization will be used to frame the findings. The analysis reveals a picture of creative labor in the age of music streaming; one marked by both innovation and compromise, where musicians have to dance with an environment that can be as constraining as it is enabling.

3.4.1. Algorithmic Visibility and Creative Constraints

One prominent theme is the set of creative constraints imposed by the quest for algorithmic visibility. For today's musicians, inclusion in algorithmically-influential playlists and recommendation feeds has become a new gatekeeping mechanism,

effectively determining which songs reach listeners. Interviewees described feeling pressure to tailor their music to satisfy opaque platform preferences.

"Sadly, algorithms undeniably affect me too. While I'd prefer not to let this influence my creativity, even minimal consideration of algorithmic demands like simplicity in chords or understandable lyrics impacts my process and slows down my music production." (I-2)

The quote displays that personal artistic impulses can be tempered by an awareness of Spotify's curatorial systems. Another musician was even more direct, stating that even the release cycles of Spotify make them consider their choices, besides the influence of 'black box' opaque curatorial systems that are explained by Eriksson (2019):

> Spotify's algorithms force us to adapt our release strategies. For example, we don't just directly upload a track; we consider Spotify's 28-day cycle for their 'new releases' or 'local radar' playlists. This directly shapes how and when we create and share our music. (I-1)

The reality is that playlists have become the primary mode for music listening, having full control over the algorithmic spotlight and therefore musician visibility. As Prey (2018) notes, Spotify's promotion of its own curated playlists and the "deliberate manipulation of search results" to favor algorithmically selected content allow the platform "to assume control over curation". In this new regime, "the curator becomes more significant than the creator",, meaning that the platform's editorial algorithms and staff picks can eclipse the agency of musicians. Artists risk becoming "subordinate, mere content-developers for playlists…interchangeable and ultimately dispensable" in an environment where being favorably indexed by the algorithm is often prerequisite to finding an audience. The interviews repeatedly echoed this loss of control. Musicians described how traditional creative autonomy is undermined by platform reward systems:

> When musicians tailor their work to fit algorithms (short intros, catchy hooks in the first seconds), it damages creativity. Initially, these demands

> came from people around us producers, labels and now Spotify has joined. (I-9)

In practice, this translates into creative self-censorship or pre-emptive conformity whilst subtly bending one's artistic vision to fit the perceived mold of algorithm-friendly content. The algorithmic imaginary (Bucher, 2018) of these artists, that is, how they imagine and perceive Spotify's algorithm thus directly mediates their creative choices. If the platform's algorithms privilege certain sounds, lengths, or structures, musicians feel pressured to deliver accordingly. In short, algorithmic visibility comes at a cost: it circumscribes the field of creative possibilities, channeling artistic production toward the formats most likely to satisfy the new gatekeepers of streaming culture.

3.4.2. Normalization of Formulaic Structures

The influence of algorithmic curation manifests in the musical characteristics of songs themselves. A recurring theme in the interviews was the normalization of formulaic structures, a trend driven by the demands of the streaming medium and its algorithms. Artists noted that the "playlist effect" has standardized aspects of songwriting such as intro length, hook placement, and overall track duration. One such remark on the subject was the following: "Both radio and Spotify have always shaped music, determining the length of tracks, when vocals enter, etc. These factors influence music production industry-wide." (I-5)

Indeed, even though radio was structuring songs back then in a similar manner with millions of songs a click away, attention is at a premium. It is well known among creators that Spotify counts a "stream" only after 30 seconds of play, and that its recommendation algorithm interprets early skips as a signal of dissatisfaction. Consequently, musicians feel compelled to front-load songs with immediate appeal – a catchy hook or vocal within the first few seconds – to hook the listener and satisfy the algorithm's retention criteria. The result is an industry-wide compression of song intros and a bias towards instantaneous "payoff." Research supports these perceptions: the average song intro length has plummeted over recent decades, from about 20 seconds in the 1980s to just five

seconds in the streaming era. The fight to get listeners past the 30-second mark (after which royalties are triggered) has led producers to begin songs in medias res, effectively offering a preview of the chorus or most exciting part right at the start (Haynes, 2017). Interviewees confirmed that they too feel this pressure.

> Spotify algorithms haven't directly affected my own creativity, but they definitely affect musicians around me. I observed my friends explicitly adapting their music and releases to fit Spotify's algorithm, timing their tracks to get on 'local radar' and maximize listens. (I-3)

This aligns with industry observations that streaming's pay-per-play model incentivizes shorter songs which can rack up more plays. Morris's (2020) analysis identifies precisely these practices: "sonic optimization", adjusting songs to fit the imagined affordances of streaming, like shortening intros or songs and "data optimization," such as naming tracks with popular keywords or emulating trending styles. In effect, a template for the "ideal" streaming-friendly song has emerged: grab attention immediately, avoid long developmental sections, maintain a steady vibe, and don't overstay your welcome. The musicians in this study are acutely aware of this template. Some follow it begrudgingly, others with a sense of pragmatic adaptation. Hesmondhalgh (2021) similarly observes that musicians increasingly respond to the requirements of platforms by "shorter songs, cramming attention-grabbing devices into the first thirty seconds…and cramming more tracks" into releases. The cumulative effect is a homogenization of songwriting practices: a convergence toward a formula that optimizes for algorithmic success, sometimes at the expense of traditional songcraft or dynamic range.

> Producing music solely to fit algorithms or market rules generally results in poor-quality music. Creativity suffers if musicians focus too much on algorithmic promotion—songs become formulaic and stripped of genuine emotional expression. A true artist wouldn't consider algorithms or popularity metrics when creating. (I-8)

However, some were more aggressive in tackling the issue, stating that "True creativity exists only when musicians ignore these external demands and return to the amateur enthusiasm of their initial explorations." (I-9)

One interviewee was particularly interested in the topic of normalization, stating that algorithms create "... a digital ignorance that promotes trivial content over meaningful art." (I-6). When asked on how this conclusion came to be, he explained an experiment he had conducted over his social media, posting a ‘meme’ video of himself versus an actual orchestral performance;

> We experimented by uploading two videos: one sophisticated orchestral piece and one trivial nonsensical clip. Algorithms boosted the trivial one. The absurd video got thousands of views, in comparison the art piece with the labor of many people stagnated. Seeing results such as this, musicians internalize the belief that shallow content is rewarded, obviously negatively impacting creativity. (I-6)

Although these are the most common perspectives on algorithmic homogenization among musicians, some were able to find a bright side in homogenization, proposing the following:

> However, when everyone produces similar things to please algorithms, truly creative musicians have fewer competitors, making it paradoxically easier for original music to stand out, despite not being promoted.(I-7)

After the discussion, most musicians were quick to point out that audiences with ‘taste’ and “discerning listeners can avoid algorithm-driven recommendations and actively seek out quality content." (I-8) The interviews suggest that many artists are aware of this homogenizing pull, even if they try not to participate in it. By normalizing formulaic structures, algorithmic curation exerts a quiet standardization on music production—one that musicians navigate with a mix of resistance and resignation.

3.4.3. Playlist Influence

A central example of this new gatekeeping is the Spotify playlist ecosystem. Playlists on streaming services have emerged as key arbiters of taste and exposure. Research by Bonini and Gandini (2019) observes that playlists are “the ‘new gatekeepers’ of the music industry”, having effectively taken over the role once played by radio DJs or magazine critics. Crucially, these playlists are not purely human-curated as traditional media were; they are “the combination of human choices and algorithmic decisions” in Spotify’s system. In practice, Spotify employs editors to curate high-profile playlists (exercising an editorial role in the first days of a release), but algorithmic systems quickly take over in ranking and recommending tracks based on performance data. Indeed, Bonini and Gandini describe the process as “first week is editorial, second week is algorithmic”, meaning a song’s long-term traction depends on how the platform’s algorithms respond to listener engagement metrics after an initial promotional push. One musician was particularly dissatisfied with this, sharing the following anecdote;

> Spotify has essentially turned into a marketplace. There are playlist curators with many followers who explicitly offer to include your song in their lists for a fee. For instance, someone approached me saying, 'Pay me this amount, and I’ll put your song into my playlist, guaranteeing at least a hundred thousand listens.' But what about my song itself? How long is it, what instruments are involved, what's its style, none of that matters anymore. (I-2)

This blend of human and machine curation exemplifies what Prey (2020) calls “algo-torial power,” the fusion of algorithmic selection with editorial influence that “has the ability to set the listening agendas of global music consumers”

Another interviewee was more perceptive towards the listener end of playlists, stating the following; "Playlists seem innocent, but they often include irrelevant tracks, subtly shaping listener preferences toward commercial interests rather than genuine taste." (I-6) This observation finds common ground with Eriksson et al. (2019), who describe how Spotify evolved from a straightforward distributor

into a curator of specially tailored listening experiences throughout its beginnings. By emphasizing playlists, Spotify not only offers convenience but also introduces a new cadre of powerful gatekeepers who decide which artists and songs gain visibility, a phenomenon that Fleischer (2017) argues fundamentally distinguishes its curated service from mere access-based music platforms.

In practice, as Bonini and Gandini (2019) note, these gatekeepers effectively regulate cultural preferences by linking songs to moods, lifestyles, or consumption patterns, thereby steering users toward mainstream offerings. The resulting “innocent” façade of playlists can mask an underlying commercial imperative, funneling listeners to heavily promoted or revenue-generating tracks at the expense of diversity or organic discovery, precisely the subtle redirection of taste that the interviewee warns against.

3.5. DIGITAL LITERACY & DEMOCRATIZATION

Contemporary musicians operate in an environment where digital literacy – the ability to effectively use digital tools and technologies – has become a foundational competency. In the interviews, all nine musicians emphasized that navigating music software, digital audio workstations (DAWs), and even emerging AI tools is now as integral to their craft as traditional instrumental skills. This section, derived from a thematic analysis of the interview data , explores how these musicians develop and apply digital literacy and technical competency in their creative practice. The section discusses the educational pathways (both formal and informal) through which they acquire these skills, the integration of technology into creative workflows, the advent of AI-based tools requiring new forms of prompt literacy, and the role of digital collaboration in professional music work. Throughout, we see how technical knowledge and aesthetic practice have increasingly become two sides of the same coin, music-making from the analog past to the AI-assisted present.

3.5.1. Traditional Digital Literacy

Several interviewees described self-directed learning as the primary way they developed digital skills, showing a gap in formal music education when it comes to technology. “In university I never touched a DAW; everything I know about music tech, I picked up myself after I graduated,” one musician noted (I-3). This sentiment was common – traditional curricula often lag behind industry practice in fast-evolving areas like music production software. As a result, musicians turn to peer networks, online resources, and sheer trial-and-error to build their competency. “I basically learned how to use Cubase by clicking around and watching YouTube tutorials, there wasn’t a class for it back then,” explained another interviewee (I-3), exemplifying the importance of community-shared knowledge. This informal learning culture reflects broader trends in music education; Théberge (2023) observes that the rise of social media and online platforms has made information sharing among musicians a key aspect of skill development. Indeed, participants frequently cited forums, video tutorials, and collaborative problem-solving with friends as crucial to mastering digital tools (I-1; I-3).

Notably, older and younger participants approached self-learning from distinct vantage points, yet both had to adapt to rapidly evolving recording technology. One seasoned musician emphasized the difficulties of an analog-era workflow, “I started out with tape, good old analog tape. To edit and arrange on those tapes, sometimes we had to do these acrobatic maneuvers with the record and play buttons. Other times, we had to physically cut and splice the tape. … But on analog tape, it was impossible to do that level of pinpoint editing” (I-5), a transition that aligns with Théberge’s (1997) depiction of digital tools as “a driving force with which musicians must contend.” Freed from the constraints of manual cutting and reattachment, the same artist emphasized how digital workstations “totally sped up my workflow, though for some people it actually slows them down, for me it’s so much faster. The freedom it brings is tremendous… I believe it definitely encourages creativity. (I-5)” Meanwhile, younger interviewees typically came of age with a baseline of computer fluency, tinkering with free or pirated software

and sharing tips online, yet they too described a deliberate learning curve. Taken together, these perspectives reinforce the idea that developing digital competency remains an active, ongoing endeavor, one that demands continuous adaptation as new tools emerge.

Digital literacy does not exist in isolation; it directly enables and shapes musicians' creative practices. The interviews reveal that proficiency with DAWs (such as Pro Tools, Ableton Live, Cubase, or Reason) and notation software (e.g., Sibelius) has become very important in composition, arranging, and production. As one participant put it, "Digitalization has undoubtedly pushed musicians to be more digitally literate. It also helps musicians become more business-aware, leading to reduced exploitation within the industry. (I-7)". This statement encapsulates the way technical and aesthetic dimensions of music-making have converged. Musicians no longer view operating a DAW as a separate technical task handled by specialists; instead, technical decisions are artistic decisions. Choosing a particular reverb or adjusting a filter cutoff can fundamentally alter the mood of a piece, and the artist-producer must have the competency to make those choices creatively. This blurring of boundaries between the technical and the artistic aligns with Théberge's (1997) observation that the advent of digital instruments and studios has given rise to a new "musical meta-language" – a set of concepts and terminologies (MIDI, quantization, oscillators, etc.) that musicians must grasp as part of their creative vocabulary. In our interviews, participants frequently discussed such concepts in artistic terms, evidencing how technical fluency translates into creative control. "Mastering these digital tools has become essential for today's musicians, significantly enhancing creative capabilities." explained one artist, explaining how technical skill enables the realization of aesthetic vision (I-6).

Beyond the DAW itself, specialized software also plays a role in compositional practice, especially for those straddling classical and contemporary domains. One interviewee described using notation software in tandem with production tools: "I compose the initial score in Sibelius to get the harmonies right, then import it into Pro Tools to shape the sounds and textures" (I-6). Fluency in both

notational literacy and production technology allowed this musician to seamlessly blend traditional composition with modern sound design – a hybrid creative process only possible through robust digital competency. Such integration shows how digital tools extend creative capabilities: ideas can be sketched in a score format and immediately realized as audio, collapsing the once-sequential stages of composition, recording, and mixing into a fluid workflow. This resonates with Burgess's insight that the role of the music producer (often now the musician themselves) has expanded to encompass a broad range of skills, from musical to technical and even managerial (Burgess, 2014). Indeed, several participants mentioned handling tasks that in the past might have involved multiple specialists. For example, a songwriter might now also program drums, engineer the recording, and edit the final mix on their own – effectively wearing the hats of composer, arranger, and audio engineer simultaneously.

However, this convergence of roles also presents challenges. Musicians must invest significant time to maintain technical proficiency alongside their artistic development, and some noted the learning curve can be steep. The need for balance emerged subtly in the interviews: even as they embrace technology, the musicians remain conscious of not letting the tools dictate the art. One producer reflected on this balance:

> "Digital competency is essential, yet there's a misconception: musicians often believe they're creative by navigating complex digital tools. However, true competency involves understanding instruments deeply, not merely knowing how to operate software. Digital tools without foundational musical knowledge can mislead rather than empower. (I-9)"

This comment hints at an underlying critical awareness – a form of digital mindfulness – that accompanies high levels of competency. Far from using technology unthinkingly, skilled musicians develop an intuition for when to leverage a tool and when to rely on human musical judgment. In sum, the integration of technical skills in creative practice gives musicians unprecedented creative control and independence, but it also demands a broadened skill set and a reflective mindset. The interviews depict artists who are both creators and

operators of complex digital systems, navigating a space where studio craft and artistic craft are one and the same.

3.5.2. Prompt Engineering & AI Literacy

A significant new dimension of digital literacy discussed by participants is the use of AI-based tools – from generative music models to automated mixing and mastering services – and the need to develop prompt literacy to work effectively with these technologies. Several musicians have begun experimenting with AI in their creative process, treating it as a collaborative tool that must be guided and curated. "Prompt engineering itself has become an art form. The way we interact with AI directly shapes whether the output we receive is innovative or derivative." one interviewee explained (I-4). This emerging skill of crafting effective prompts (clear, detailed textual or parametric inputs for the AI) is a form of digital competency that did not exist even a few years ago. The participant's comparison of prompt-writing to directing a session player is telling – it frames the AI as a creative partner that requires communication in a new language. Others echoed the importance of this skill: getting useful results from generative models often involves an iterative dialogue, tweaking the input until the output aligns with the musician's vision (I-4; I-5). In the context of AI-driven composition and sound design, the human artist's role shifts towards that of a curator or editor who must possess enough technical understanding to steer the algorithm. As Miranda (2021) notes, artificial intelligence has rapidly become part of the music production landscape, introducing novel possibilities but also new demands on creators. Our participants' experiences illustrate this vividly – they are excited but also learning the limits and capabilities of these tools in real time.

One mix engineer noted that while an AI mastering service can provide a quick polish, "AI tools must be mastered like instruments. The difference between an amateur and a professional using AI in music is massive—the professional knows precisely how to get meaningful, creative outputs." (I-6). This reflects a consensus that AI tools augment but do not replace human expertise; in fact, using them effectively requires its own expertise. Thematically, this aligns with the idea that musical creativity and production remain deeply human endeavors

– even as AI advances, the musician’s role evolves rather than evaporates (Miranda, 2021). Participants implicitly recognized this by treating AI outputs as raw material or suggestions, not finished products. The introduction of AI into the creative workflow has also prompted reflection on artistic authenticity and ethics, though these were generally secondary to practical concerns. A few interviewees admitted to feeling a hit of artistic conscience. “Personally, when I use AI tools, even if they're just assisting, I feel a sense of artistic guilt, I call this 'artistic conscience’. Even if a small part of my music was AI-generated, I can't fully claim it as my own.” This conscience guides my artistic integrity. AI-generated music can be beautiful, but can you really call it yours if the process lacks genuine personal creativity? (I-8). Such feelings indicate that beyond the technical learning curve, there is an emotional negotiation happening as musicians integrate AI into their art. They are wary of over-reliance, not wanting the essence of their music to be compromised by something “too easy” or non-human. However, importantly, most participants did not overemphasize this issue; it was acknowledged and then balanced with a pragmatic view.

Most musicians think that artificial intelligence is merely another tool, like a complex plugin or instrument, and that artistic integrity depends on how the technology is applied. Recent studies describing artificial intelligence in music as a kind of co-creativity in which human and machine both have unique strengths supports this view—one in which both human and machine contribute distinct strengths (Briot et al., 2020). AI applications are already affecting music-making "at every level," as Théberge (2023) points out, and the experiences of our respondents reveal them actively struggling with what that implies for their workflow and feeling of authorship. All things considered, for artists, understanding AI-based tools—learning how to trigger them, interpret them, and wisely include their output—has become a new frontier of digital literacy. Reinforcing that more technical power comes with more artist responsibility, it calls for not only technical knowledge but also critical listening and ethical judgment.

3.5.3. The Promise of Democratization

Many of the interviewed musicians described the advent of platforms like Spotify, YouTube, and SoundCloud as empowering. They highlighted how easy it has become to record at home, distribute music via aggregators, and build an audience through social media. “Definitely, platforms like Spotify have made music production much easier and more accessible. Anyone can make music now, even someone with no prior musical knowledge, thanks to AI-generated tools,” noted one interviewee (I-1), capturing the optimism shared by several participants. This sense of democratization stems from the removal, or at least bypassing of certain traditional cultural intermediaries: the entities that once stood between artists and audiences. Record labels, A&R representatives, radio programmers, and music press used to be gatekeepers deciding who accessed professional studios, shelf space, or airtime. Now, any musician with an internet connection can, in principle, reach a global audience. As Hesmondhalgh (2019) notes, in terms of access, digital communication technologies have indeed “opened the way for [more creators] to share cultural products”, giving rise to an unprecedented volume of music content available online.

Interviewees frequently discussed changes in production, distribution, and promotion. On the production side, affordable software and digital instruments enable songs to be created outside professional studios. “Platforms like Spotify have made music more accessible for everyone. Someone who just picked up a guitar can create music at home with a basic sound card and software, releasing tracks immediately,” explained one participant (I-3). Another interviewee (I-4) likewise observed, “Digitalization has allowed artists like myself to share music directly with audiences without relying on traditional gatekeepers or companies. This democratization lets everyone produce music even if they lack traditional equipment, thoroughly changing how music is shared.” Such accounts illustrate how even independent creators can produce and publish songs that, at least in theory, stand beside major-label releases on streaming platforms.

In terms of distribution, participants emphasized the ease of uploading music to services like Spotify and YouTube. This direct distribution bypasses physical

distributors and retailers; as one musician (I-5) put it, “Yes, platformization allows everyone to put music on Spotify without needing a record label, but if no one promotes it, it won’t get listened to. The industrial side hasn't really evolved. Their experience reflects the idea of disintermediation, usually ascribed to the internet era, when platforms link consumers and producers more directly. Artists no longer need the ancient middlemen for market access, as Siciliano (2022) observes in noting that creators today “no longer require non-platform intermediaries for access to markets.” Yet that same directness also means the platforms themselves act as gatekeepers. As one interviewee (I-9) observed, “At first glance, platforms like Spotify seem revolutionary, everyone can share music without intermediaries. But in reality, they’re the new intermediaries.”

The interviews showed, therefore, that although many musicians welcome these chances, their enthusiasm is moderated by reality. Many of the participants admitted that simply being able to release music does not ensure a following. "Though we're all technically equal on platforms like Spotify, major artists and labels still dominate visibility and popularity," one artist (I-1) warned. Platforms give the impression of democracy, said another (I-3), "making it seem as though everyone is equal. Actually, large artists rule. Though you may readily submit your music, promotion, algorithms, and financial power still determine visibility. Along the same lines, a respondent (I-2) said, "I don't believe platformization makes music production more democratic. It’s still about connections, money, and vision. Publishing your music under your name alone doesn’t ensure anyone hears you.” This introduces a core imbalance within the platform era: on one hand, production and distribution have opened up in ways that truly are more accessible to an unprecedented number of creators; on the other hand, bottlenecks around attention, visibility, and discovery remain. Removing the old gatekeepers did not guarantee equal visibility for all artists’ work. Indeed, as participants repeatedly pointed out, the industry still requires “someone to push your music” (I-5), whether that is a major label, an influential curator, or a platform’s own algorithmic recommendation system.

In short, digital platforms have enabled a broadening of who can produce and publish music. But they have also ushered in new mechanisms of gatekeeping and curation that shape which artists ultimately reach audiences. As one participant (I-2) argued, “The industry became more commercialized than ever before, even playlists became purchasable. This isn’t democratization; it’s commodification.” These reflections are the heart of the paradox at the heart of contemporary music production: while more people than ever can create and release songs online, the pathways to actually being heard—and earning a living—remain as constrained as ever, only this time by the platform economies that govern visibility and discovery.

3.6. COPYRIGHT, ETHICS & THE FUTURE OF MUSICIANSHIP

The unsettled authorship of AI music leads directly into legal problems. Copyright law must determine who, if anyone, owns an AI-composed piece, and how to handle infringement by or against AI productions. Current jurisprudence in the U.S. and EU leans toward denying full authorship to AI; if an AI independently generates a song, it is effectively in the public domain unless a human’s creative involvement can be shown. Thus, rival musicians might freely use AI outputs, and users of AI cannot claim exclusive rights without human authorship. Simultaneously, human-created music remains protected, raising another battleground: AI systems often train on copyrighted music without permission. While the EU’s Copyright Directive (2019) permits text and data mining under certain conditions, lawsuits like the 2023 action by major publishers in the U.S. (Johnson, 2023) demonstrate the growing tension over unauthorized use of music as training data. Copyright disputes now loom on both the input and output sides of AI music.

A related concern is AI-generated music mimicking specific artists’ styles or voices. Even absent direct sampling, rights of publicity may be violated when AI clones an artist’s persona. Laws like Tennessee’s Ensuring Likeness, Voice, and Image Security (ELVIS) Act aim to protect performers from unauthorized AI impersonations (Rosman, 2024), treating an AI-generated vocal performance as akin to human impersonation. As Rosman (2024) notes, Tennessee became “the

first U.S. state to sign off on legislation to protect musicians from unauthorized AI impersonation," addressing a gap left by traditional copyright. China has moved similarly with its Administrative Provisions on Deep Synthesis, mandating explicit labeling and prohibiting unauthorized digital impersonation (Reuters, 2022). These legal advances reflect the principle that copying a human's identity—even digitally—demands protection. Recording Industry Association of America president Mitch Glazier emphasized this moral dimension, stating that such laws protect "an artist's soul" (Hight, 2024).

Moral rights, particularly strong in Europe, further complicate AI's impact. If AI reworks a musician's creation—through stem remixing or style transfer—it could harm the original artist's honor or reputation. While moral rights traditionally apply to human authors, increasing AI transformations could pressure lawmakers to extend protections. However, as artists like Grimes show, not all creators oppose AI reuse; she encourages fans to generate AI copies of her voice if royalties are shared (Aram et al., 2024). Similarly, musicians interviewed expressed ethical concerns about claiming AI-generated works as fully "his" creations (I-6), and others (I-4) who warned that art loses its essence if AI dominates decision-making show a range of artist attitudes. Balancing protection against exploitation while enabling transformative, consensual uses remains a challenge as AI reshapes musical creativity, which will be discussed further in this chapter.

3.6.1. Authorship in the Age of AI Music

One of the first challenges posed by AI in music is defining authorship and originality. Copyright law traditionally requires a human author as the source of creativity. In the European Union, for example, a work is considered original only if it reflects "the author's own intellectual creation and his/her free creative choices". By this standard, a composition generated entirely by an algorithm – without human creative choices – would fail to qualify as a protectable work. Scholars note that under present law, "autonomously AI-generated works might not be eligible for copyright protection". Similarly, in the United States, the Copyright Office has affirmed that works created with no human involvement cannot be copyrighted (Reed, 2023). The U.S. Constitution's language granting

rights to “authors” has been interpreted to mean human authors only. In a formal guidance issued in March 2023, the U.S. Copyright Office “reaffirmed its position that works that are created by AI without human intervention or involvement cannot be copyrighted” (Reed, 2023). This reinforces a long-standing precedent that purely non-human creativity – whether from nature, animals, or algorithms – lies outside copyright’s scope. As one legal expert explains, if a person simply prompts an AI to make a song in the style of Mozart, that person likely “can’t be considered the song’s author” under current doctrine (Reed, 2023).

Yet AI-generated music rarely arises in a vacuum; humans are usually part of the process, blurring the lines of authorship. A musician might write lyrics and have an AI model generate the instrumental arrangement, or use AI to refine melodic ideas. In such cases of “AI co-authorship,” we encounter a grey zone. Courts and scholars increasingly suggest that if a human makes a “significant creative contribution” to the output, that human can be deemed an author, even if an AI was used as a tool (Reed, 2023). For instance, if a composer curates or edits AI-generated material in a creative way – selecting the best AI-produced riffs and arranging them into a song – the end result may still be eligible for copyright, because the human’s creative choices imbue the work with originality. This reasoning was applied by the U.S. Copyright Office in a 2022 decision to register a graphic novel that included AI-generated images, on the condition that only the human-authored elements (the text and the selection/arrangement of images) were protected (Reed, 2023). In other words, current frameworks are attempting to draw a line between AI as an assistive tool (permissible, with human author retaining rights) and AI as an autonomous creator (not recognized as an author in law).

Philosophically, this raises the question: can AI be genuinely creative, or is it merely recombining existing patterns learned from humans? Many musicians view AI’s “creativity” with skepticism. One interviewee argues that AI lacks the imaginative spark of a human composer. In his view, AI will “only produce perfectly analyzed, perfectly calculated copies of things that have been done… [it] cannot design something from scratch… Chopin [i.e., a truly original

composition] cannot be created by AI" (I-7). He emphasizes that while an algorithm can mimic a style (even to an impressive degree of pastiche), it "cannot create Chopin" – it cannot originate the kind of inspired, context-defying work a human genius could. By contrast, some artists believe originality can still emerge from human–AI collaboration. Another musician suggests that using AI does not necessarily make music less original: "If AI helps you cover something you overlooked, it definitely serves to increase your originality" (I-6). Here, the musician frames AI as a supportive tool that can fill in technical gaps or generate ideas the artist can then uniquely develop. His stance reflects a growing cohort of musicians who see AI as an extension of their toolkit – akin to a new instrument – rather than a replacement for their own creativity.

An interviewee, who also happens to have a background in computer programming, offers a nuanced perspective that bridges these views. He notes that what AI does is essentially an amplification of human methods: "We think of AI as independent from us, but it's actually us… I don't think AI can go far beyond humans" (I-9). The musician points out that throughout music history, extraordinary creators like Bach or Mozart could themselves be seen as "human AI," synthesizing prior music knowledge into groundbreaking new works. From this angle, AI is just the latest step in a continuum – a tool that learns from human culture much as humans learn from each other. But even the interviewee himself cautions that entirely handing over the creative process to algorithms would be a mistake. He remarks that predicting a future where "only AI will produce and we'll just listen" is premature and likely "emotional" – and he stresses that the human element in music will remain critical (I-9).

Another interviewee, an experimental artist likewise balances enthusiasm with caution. She has actively integrated AI into her songwriting process and found it mostly advantageous. She describes how she might ask an AI to provide historical and symbolic insights about a theme (for example, the color red) to inspire her songwriting. Using AI in this research-and-development capacity, she says, "has always been an advantage" and helped her creative flow (I-6). However, the musician is careful not to let the AI actually compose or decide for

her. She issues a warning: “if an artist puts AI front and center – like ‘you [the AI] do the song, you produce it’ – then the art loses its essence and originality. Our decision-making and our inner voice is the core of art; if you put AI in that place, the art loses its essence.”(I-6). In her practice, the musician ensures that she remains the one making the creative decisions (melodies, lyrics, performance), using AI only as a supportive assistant or idea generator. Her point echoes a broader ethical argument: true artistic originality arguably requires human intent and agency. AI may generate aesthetically pleasing results, but if the artist’s “personal touch” is absent, can we really call the output art in the full sense? This view resonates with the legal concept of moral rights, which in civil law jurisdictions protect the personal link between an author and their work (e.g. the right of attribution and integrity). If AI composes a song in an artist’s style, that artist’s moral rights aren’t technically violated (since they didn’t author the work), yet something akin to a moral right concern does arise – the artist’s unique style or “voice” is being appropriated without their input. Another interviewee touches on this when he empathizes with creators worried about AI mimicry: “a painter crying [that an AI copied their style]… I don’t first look at the AI, I look at that artist [and what it means for them]. (I-7)” Ultimately, questions of authorship and originality in AI music force us to reconceive creativity as a spectrum: from fully human-made, to human-AI co-created, to fully machine-made. Each point on this spectrum tests our definitions of art. As legal scholar Bob Sturm and colleagues put it (2019), these scenarios “challenge [existing] copyright law”, and may require new thinking on how to recognize authorship when multiple human and non-human actors contribute.

3.6.2. Music as a Profession

Beyond legal doctrine, the advent of AI in music raises practical questions for musicians: Will AI steal jobs from composers, instrumentalists, and producers? Or will it augment human creativity and unlock new possibilities? The impact on professional musicianship is a central theme in this debate, and artists themselves express a range of hopes and fears. Many musicians acknowledge a sense of unease, the fear of being replaced or devalued. Upon asking, “Is AI

going to come and put us out of a job?" point blank; one interviewee responded that some jobs will be disrupted, but adaptability is key. "One has to adapt. The first to lose their jobs are always those who insist on doing things the same way for 5, 10, 20 years… at some point you get told 'you're stuck 30 years ago" (I-5). In his view, AI and other technologies won't eliminate music jobs outright, but they will change the skill set required. He predicts new roles will emerge—"maybe" [today's] studio recording engineers… will become AI trainers"—and" believes "the number of jobs won't change, but job definitions and fields will" (I-5). This outlook frames AI as part of the ongoing evolution of the music profession. Indeed, history supports this: from the introduction of synthesizers to digital audio workstations, technology has continuously shifted what tasks humans do in music production. Musicians who learned to use those tools often thrived, while those who did not sometimes struggled. AI may be analogous—a disruptive innovation that musicians can either collaborate with or risk getting left behind. The sixth interviewee's advice to "adapt" is paralleled by others. Another musician (I-6) notes that AI's rapid development can "speed up everything" in the music creation process, removing a lot of the grunt work (the "portage," as he calls it). He views this positively: if repetitive tasks like generating backing tracks or basic chord progressions can be offloaded to AI, composers can focus on higher-level creative decisions. He argues that we should "educate musicians who can use [AI]" and treat it as an instrument to be mastered (I-6). "In the hands of those who know how to use it," he says, "AI [will] live its golden age". His orchestra, which embraces technology in performances, exemplifies how professionals might integrate AI without losing their artistic agency.

On the other hand, several artists worry that overreliance on AI could dilute human creativity and the human connection in music. Another interviewee (I-1) contends that using AI can box musicians into predictable patterns. "There's a leader side and a follower side," he explains. "If we leave the lead to AI, we can only progress along the points it guides… For example, if a chord progression is written by AI, then the scale we'll play and our melodies and rhythms will all be dependent on [the AI]." In contrast, "not using AI means we do more ourselves, so I think not using AI makes us more original." Articulating a fear that AI could

homogenize music. If everyone relies on the same algorithms optimized for “hit-making,” one might end up with formulaic songs and fewer idiosyncratic, experimental works. This ties to what another musician (I-7) calls “the war of mediocrity,” a scenario where massive amounts of AI-generated content flood the market, and attention (or streaming revenue) is skewed by those who can game algorithms. In fact, in 2023, Spotify confirmed it removed tens of thousands of AI-generated songs (about 7% of those created via the startup Boomy) for suspected “artificial streaming” manipulation (Sacem, 2024). According to a Forbes report (Johnson, 2023), these tracks were being uploaded en masse and inflated by bots to siphon streaming royalties. Incidents like this validate artists’ worries that a glut of low-effort AI music could crowd out authentic musicians, or that bad actors will exploit AI to create “spam music.”

One singer (I-2) remarks that AI tends to generate “sounds and feelings that [society is already familiar with],” basically reinforcing popular styles. Because AI is trained on existing hits, it might have a bias toward producing more of the same— potentially accelerating a trend where many songs sound similar. He argues that “Popular integration [of AI] restricts originality; what I write myself is definitely more original” than an AI’s output . However, he also concedes that AI might surprise us: it “could present us things we have never felt… things we couldn’t even imagine,” suggesting that technology could also introduce new musical ideas beyond the human repertoire. This hints at a balanced outlook—AI could flood the market with generic content and occasionally produce novel, unorthodox material that challenges human composers.

The role of the audience and the human touch in performance remains a strong argument for the enduring value of human musicianship. As interviewee one (I-1) points out, even if an AI wrote a brilliant guitar solo, when that solo is performed live, “its feeling is provided by human control.” Listeners often seek a human connection—the knowledge that a song’s emotions come from a living person’s experiences. If AI creates a song, can fans form the same bond with it as they do with a human artist? This is an open question. Some research in music psychology suggests audiences might react differently if they know a piece was

AI-composed (Sturm et al., 2019). Interviewee four noted that when she incorporated AI into her music, part of her audience was intrigued by the tech, but she is careful not to let the technology overshadow her own artistic identity. The authenticity and transparency of using AI become important—some listeners might feel deceived if a song presented as heartfelt art was actually generated by a machine. In response, proposals have arisen for “AI content labeling” so that consumers know when music is AI-assisted (China has already mandated such labels for synthetic media in some cases) (Schwartz, 2023). From an ethical standpoint, most agree that disclosure is critical: audiences and collaborators should know if a piece of music was created with AI involvement to avoid misattributing creative credit or artistic merit.

Interestingly, not all professional musicians view the democratization that AI brings as a bad thing. By lowering barriers to entry (one can create a decent-sounding track with minimal training using AI tools), AI is “democratizing music production,” enabling people with ideas but not much formal training to realize their creative visions. Most interviewees acknowledged that digital technology in general has made music creation more accessible over the decades, and AI is part of that continuum. This could lead to a more diverse music landscape, with voices from those who previously couldn’t participate. One musician (I-3), coming from an underground metal scene, appreciates how software and now AI allow small bands to achieve production quality and innovation that once required big budgets. However, with democratization comes market saturation. The final musician (I-9) wryly notes that “musicians’ work has been taken out of their hands long” before”—referencing how even the popularity of recorded music and broadcasting in past eras reduced the demand for live musicians. In his view, AI is just the newest chapter in a long story of musicians having to reinvent their role. He counsels against panic, calling fears of “AI replacing musicians” an overreaction or “emotional approach” (I-9). Music, he reminds us, is an enormous global industry and an inherently human cultural force—it’s not likely to vanish simply because algorithms can generate tunes. Instead, human musicians may concentrate on the aspects of their craft that AI cannot replicate easily: genuine

emotion, stage presence, songwriting that connects deeply to human experiences, and so on.

In sum, the impact of AI on musicianship will depend largely on how musicians choose to engage with the technology. Those who use AI as a collaborative partner—a source of ideas, a quick assistant for tedious tasks—may find it expands their creative horizons. One musician (I-6) likens using AI to wielding a new instrument, emphasizing that a skilled musician can get great results, whereas a novice won't: "When a violin is picked up by someone who plays it extremely well, you get magnificent results… someone who picks it up for the first time will give you something unlistenable. I see AI the same way." By contrast, musicians who abdicate their creativity to AI or who ignore the technology entirely might struggle. The consensus from the interviews is that human creativity remains paramount— AI is a tool, not a replacement. Reporters often note that as long as audiences value the human element, there will be a market for human-created (or at least human-curated) art, even if AI-generated content becomes ubiquitous (Johnson, 2023). The future likely holds a coexistence of human and AI creativity, with a premium on authenticity and originality that only humans can fully provide.

CONCLUSION

This last chapter places the major ideas, results, and conclusions derived from the interviews and studies spread throughout this thesis into the larger academic conversation on music, technology, and cultural creation. The musician's attitude to creativity in the face of technological change, changing ideas of authenticity, the changing role of gatekeeping and cultural intermediaries under platformization, the influence of algorithmic curation on artists' creative choices, and the issue of digital literacy were among many topics we explored in past chapters relevant to modern music-making. Though every chapter focused on particular topics, taken collectively they show a musical scene where creativity, technology, culture, and economics are closely integrated. Far from being simple background elements, digital tools and platforms are acknowledged as dynamic forces that mold and transform musicians' work. Reflecting on how artists handle and use technology, how authenticity stays both sought and elusive, how platformization and algorithmic gatekeeping limit or empower creators, and how digital skills have come to be a vital component of contemporary musicianship. This final discussion will combine these topics into a consistent narrative. Drawing from these results, the chapter will close by providing suggestions for more study in a field marked by constant development and ongoing contradictions.

The first significant topic, investigated in what we called the "Musician Approach to Creativity," emphasizes how technological development continuously alters the basic concept of what it means to be creative in music. From the perspective of these nine interviewees creativity appears not just as an individual impulse or flare but also as a relational phenomenon molded by the tools, procedures, and collaborative settings framing the creative process. Participants regularly mentioned the feeling of freedom digital technology provided: layering several recordings without physical limits, saving and sharing almost endless variations of a song, and playing around with synthetic timbres or new instrumental textures on a whim. That flexibility was constrained in an older, analog-based system. Editing analog tape often called for actual scissors and tape, one participant said,

which limited the fluidity with which one could hone or reinvent a track mid-creation. Digital audio workstations eliminated the creative canvas, therefore transforming it into a vast capacity for hasty, iterative modification for the artist.

Still, the very same interviews that argued that this creative possibility also brought attention to limitations—external expectations to create professional-grade mixes, "radio-ready" (or "streaming-ready") track durations, or formulaic structures that fit streaming platform standards. Increased competition and algorithmic feedback drive the quest for "professionalism," which might compromise the spontaneous or experimental aspect of art. We saw all through that creativity is in a condition of tension: technology frees as much as it standardizes, promotes independence while increasing professional demands, and provides the door to more experimentation at the danger of promoting formulaic repetition. This complexity speaks to academics like Attali (2017), who saw music as both prophesy and commodity, and Becker (1982), who cautioned us that creativity always lies inside an "art world" of social, economic, and technical elements. The interviews provided a microcosm of these conflicts: the participants embraced digital convenience and new expressive possibilities but were concerned about losing creative power in a society that values brief, readily consumable material.

Examined under the heading of authenticity, a second topic covered in the dissertation helps clarify why so many musicians stay on guard about sacrificing their vision for economic or computational purposes. Though notoriously hard to pin down, authenticity remains a core ideal in musical cultures. A complex knowledge that developed from the interviews showed that authenticity has several facets: technical ability, personal aim, cultural foundation, emotional honesty. Participants maintained that even in a digital or AI-driven process, music that connects with true feeling and personal expression may be recognized as authentic. On the other hand, music created to pursue metrics or algorithmic profit might be called formulaic or "soulless." While some philosophers may argue the consistency of authenticity as an absolute notion, the respondents regarded it as a living, guiding principle. Often, their language reflected honesty, self-

awareness, and genuine emotional stakes as markers of authenticity. Believing that music really anchored in cultural memory fights homogenizing forces, some anchored their sound identity with local or indigenous designs. Others defined authenticity in more universalist terms: the feeling that an artist believes in what they are presenting, creating a direct emotional connection with viewers that commercial interests cannot duplicate. In an economy that bombards musicians with fresh demands—from social media marketing to algorithm-friendly songwriting—authenticity is never a fixed quality; it must be constantly renegotiated, as the discussions showed. Artists run the danger of straying toward a kind of cultural creation more and more ruled by uniform, data-driven demands if they do not actively work to maintain authenticity.

Emphasizing the historical pivot in the music business from a system run by conventional gatekeepers to one driven by platform-based curation, the third main subject, of cultural intermediaries, Nieborg (2018), Poell (2018), Bonini (2019), and Gandini (2019) among other academics have contended that streaming services like Spotify have replaced older types of gatekeeping—labels, radio, A&R scouts—with algorithmic or “algo-torial” gatekeepers, therefore reconfiguring rather than erasing power imbalances. The interviews confirmed this viewpoint. Participants often observed that although any musician may now publish songs with little practical hurdles, the actual difficulty is in getting visibility—something more and more controlled by playlists, computer suggestions, and in-house editorial staff. Musicians know well that being on a handpicked playlist may determine whether they are famous or unknown. They also see the possibility of payola-like behavior, in which playlist curators might ask for money in return for inclusion or where large corporations use their influence to obtain premium spots. At first glance, Spotify, YouTube, and Apple Music seem to have democratized distribution; in reality, many decided that success still relies on the "push" of well-resourced gatekeepers—only now, these gatekeepers are more opaque, hidden behind algorithmic black boxes or official platform curation policies. Interviews reflected a feeling of "illusion of democratization" that echoed criticisms by Hesmondhalgh (2019) and others contending that although new digital paths have not erased the historical

inequities, they have just reinterpreted them. Discussions about playlist culture made this more clear. These crafted lists, even if created by humans not only determine which artists flourish but also subtly influence listeners' cultural boundaries by tying music to emotions, lifestyles, or general purchasing patterns. This study also indicates that platforms are active cultural mediators creating new standards of taste and directing attention in ways that reflect or even magnify current market hierarchies rather than being simple and passive distribution pipelines.

Along with this shift to platform-based gatekeeping, the impact of algorithmic curation on musician creativity became a center of attention. Building on the understanding that curated playlists and algorithmic recommendation systems influence both creation and consumption, the interviews investigated how these systems either inspire or limit creative choices. Artists who envisage how playlist curators or recommendation engines want songs to appear or sound create the so-called "algorithmic imaginary," which causes them to change song structures, lengths, or release dates appropriately. Participants understood that success on Spotify may call for calculated track durations or fast melodic hooks that capture listeners before they could skip. Some admitted to worrying about whether the algorithm would "like" their song; some said that the search for data-driven approval might eclipse simply creative drives. The research also revealed that, given creators' concern of straying too far beyond accepted patterns, algorithms might promote homogeneity or "lowest common denominator" strategies. Not every participant, however, viewed algorithms negatively. Some hailed the possibility of how more specialized or unknown music can locate an audience, if it activates the correct engagement statistics. From that perspective, the curation approach may be a "creative sparring partner" rewarding steady releases or improved manufacturing. But experiences of unpredictability and precariousness dampened these positive voices mostly; there, the algorithm's favor might go as fast as it emerges. The ambivalence captured by these interviews fits Beer's thesis on the "social power of algorithms," which implies that although digital curation might create opportunities, it also exacerbates unstable situations for independent artists. Artists eventually tune their songs to a changing,

unknowable system that favors popularity or quick listener involvement. This, the respondents said, sometimes promotes short-term formulaic thinking that might suppress more experimental kinds of creativity.

The fifth significant topic of digital literacy & competency rounded out the discussion by showing that while digital instruments create new limits, they also need (and reward) new kinds of knowledge. Older and younger musicians have different entrance points; the veterans usually described a difficult move from analog or reel-to-reel tape techniques to the fluid environment of Pro Tools or Cubase, lauding the jumps in speed and accuracy that digital editing offers. Younger individuals, for their part, started playing around with DAWs as teens, mostly gaining knowledge via self-directed research, internet courses, and peer cooperation. Still, for both groups the outcome is an awareness that digital literacy has become a vital aspect of musical practice, no less as crucial as instrumental ability. Mastering software opens up creative possibilities and lets musicians create whole songs without relying on qualified engineers or costly studio rentals. Participants underlined, nevertheless, that technology does not ensure quality by itself. Without musical understanding or a sense of creative direction, tools might be misapplied. As they claimed, real digital competence is the combination of technical fluency with artistic sensitivity. This is especially true for technologies driven by artificial intelligence. While several respondents expressed a kind of "artistic conscience" or remorse about allowing artificial intelligence do too much of the creative labor, others were excited about generative AI for rapidly generating tunes or audio cleanup. Still, very few thought artificial intelligence will completely replace human art; rather, they underlined that deliberate, human-driven use of such technologies might improve creativity instead than reduce it.

In a time when artificial intelligence can both produce music and mimic human performing styles, the final question of copyright and labor highlights a growing conflict over authorship, originality, and professional autonomy. Current U.S. and EU legal systems largely reject wholly AI-composed compositions as copyrightable, raising several issues about whether music resulting from little human involvement should be in the public domain or be unprotected. This legal

gray area exacerbates conflicts on both the input and output sides of artificial intelligence creativity: on one hand, systems frequently train on copyrighted material without permission, which may lead lawsuits from publishers worried about large-scale data mining; on the other, rights of publicity and moral rights become relevant when artificial intelligence technology imitates an artist's voice or persona. Particularly if unethical actors mass-produce formulaic songs for profit, many respondents voiced concerns of "losing jobs" or having their creativity degraded by a deluge of AI-generated material. Some, on the other hand, contended that, when utilized correctly, artificial intelligence's ability to automate lower-level chores and inspire new musical ideas may enable human composers to concentrate on deeper creativity and emotional expression, therefore changing the professional function of musicians instead of replacing it. Legal changes like Tennessee's ELVIS Act or China's Administrative Provisions on Deep Synthesis draw attention to global awareness of this balance, therefore acknowledging that the "human soul" behind music deserves protection even as they permit consensual, transforming uses of artificial intelligence. Practically speaking, the future of authorship in artificial intelligence music looks set to change toward a co-authorship model as law and business progressively hone how much human input is required to obtain copyright and how to protect moral rights in a scene where the line between machine-driven replication and genuine artistic creation gets more hazy.

Besides authorship, the cultural appropriation of AI in different cultures remains an unresolved case. For the example of Turkiye, Kaymas (2019) critically addresses governance issues of cultural and creative industries in Türkiye, reflecting on the implications of global cultural hegemony and local policy inadequacies. He argues that reliance on Western-centric development models and lack of infrastructure and policy support limit the ability of developing countries to participate fully in global cultural flows (Kaymas, 2019). In the context of AI and music in Turkey, this argument takes on renewed urgency, as the global dominance of AI technologies predominantly developed in Western contexts risks exacerbating existing cultural inequalities. Demir et al. (2025) examine the influence of artificial intelligence (AI), especially generative AI, on cultural

production as shaped by politically framed policies. They show AI's embedded biases from predominantly Western datasets, which pose risks of marginalizing local cultural expressions in non-Western contexts. This concern significantly pertains to AI applications in Turkiye's music sector, as the adoption of Western-centric AI tools might unintentionally diminish Turkiye's musical diversity. Consequently, Turkiye's cultural policy should prioritize algorithmic transparency and cultivate AI systems trained on local datasets, safeguarding cultural authenticity in music against homogenizing global trends (Demir et al., 2025). The dominance of Western-centric AI technologies threatens to deepen existing cultural inequalities, potentially marginalizing Türkiye's rich musical heritage. To counteract these risks, Türkiye should develop robust governance frameworks prioritizing cultural inclusivity, intellectual property protection, and local innovation in AI. Such strategies would enable Türkiye to assertively position its unique musical culture within global creative industries while mitigating the adverse effects of cultural homogenization driven by AI technologies.

Considered together, these thematic threads suggest a music business formed by both continuity and great change. Continuity is found in the ongoing presence of gatekeepers and deep-seated inequities: earlier systems of label-driven privilege remain in effect, albeit in modified forms suited to platform logic. Digital literacy has allowed new kinds of cooperation or self-promotion, improved data feedback loops informing artists, and significantly reduced production obstacles. The change is in these three areas. Every aspect of the creative process is permeated by the struggle between democracy and commercialization, liberty and algorithmic limitation, or authenticity and formulaic repetition. Far from creating an unrealistically rosy picture of a "level playing field," the interviews expose the paradoxical truth that digital technology simultaneously empowers and disempowers. Many of the participants believe that negotiating with these tools, appreciating their convenience but setting personal boundaries to protect authenticity or creative independence, is the best way forward.

When one reflects on the importance of these results, it is helpful to place them within more general theoretical conversations. Scholars such as Bourdieu warn

us that artistic creation develops in sectors ruled by social hierarchies and types of capital. The narratives of the participants show that digital capital, such as knowing how to run DAWs, manage information, or use artificial intelligence, now constitutes a vital resource for success. While many scholars draw attention to the "black box" of algorithms generating new information asymmetries, which harms smaller authors without insider ties with platform curators. The stories of purposeful "algorithm hacking" or pay-to-place playlist placements verify that, despite the appearance of universal access, an unequal distribution of knowledge and resources remains. These "platform-based cultural intermediaries" are not neutral conduits; they are strong arbiters of taste supporting a winner-takes-all dynamic that favors big businesses. Consequently, although most stay unnoticed in the concealed areas of streaming libraries, a tiny percentage of artists draw great streams, supporting the long tail theory of Chris Anderson (2006), explained further in the context of music by Alan Krueger in his 2020 book, Rockonomics.

Apart from structural criticism, the interviews also provide glimmers of optimism. Though eclipsed by algorithmic supremacy, the intangible yet essential function of peer endorsement and grassroots discovery stays unaltered. Furthermore, the growing public acceptance of artificial intelligence for jobs like mixing, mastering, or melodic sketching exposes how technology may speed up the creative process, liberating artists from monotonous work and allowing them to concentrate on interpretative or creative decisions. Whether this cooperation finally elevates autonomous art or contributes to more corporate consolidation is still in question; the point is that the technology by itself is not deterministic. Musicians still have control over how they employ artificial intelligence, how they create an audience, and how they include or oppose platform limits. Therefore, a careful evaluation of digital music culture has to take into account the human creativity that battles structural forces at work. Emphasized in the second chapter, the idea of authenticity surfaces here as a strong lens. Musicians often called authenticity a guiding philosophy that transcends simple financial success or algorithmic favor. Those who choose to "play the game" while maintaining personal identity did balancing acts utilizing PR tactics or timely releases to seize streaming momentum but rejected letting statistics drive basic creative choices.

Others mentioned using other distribution routes such as Bandcamp, direct fan subscriptions, live events where they might build closer relationships with smaller groups, ignoring the transient logic of playlists. We observe, therefore, that data-driven limits do not cause authenticity or originality to disappear; rather, they become more intentional positions. The thematic synergy across the chapters implies that although technology influences creative habits, it also increases the drive for conscious art—musicians have to choose how much to fit or oppose the system, therefore driving reflective choices that preserve authenticity as a living value.

Though these results present a detailed image of the modern music scene, the study also shows some restrictions and calls for more questions. First, the sample size is somewhat small, just nine interviews; their viewpoints, albeit varied, do not reflect the whole range of genres, locations, or industrial responsibilities. Future research should broaden the scope to include other prominent pop musicians or those from historically underrepresented areas to investigate whether platformization and algorithmic curation change outside the settings seen here. Second, the fast changing of AI-based technologies means that any picture of modern practice might rapidly become out of date. When powerful big language models or new generative music platforms become common, the interviewees' present use of generative AI for mixing or concept creation may seem basic in five years. Further studies might monitor these changes longitudinally, looking at how artificial intelligence literacy changes and whether the boundaries between "human" and "machine" innovation change in ways not yet expected. Third, more ethnographic research is required to immerse in musicians' everyday routines and record not just their self-reported tactics but also the behind-the-scenes interactions with technology and gatekeepers. Moving beyond interview-based knowledge may mean watching creative sessions, team operations, or interactions with platform reps. Such a strategy may highlight the unspoken rules or tacit knowledge influencing digital music production in real time.

Furthermore, academics might want to look more closely at platformization's cultural-linguistic aspects. Many large streaming services being Western-based

means their recommendation systems, editorial teams, and curated playlists might mostly represent Anglo-American preferences, hence unintentionally sidelining alternative language or cultural expressions. Although other respondents mentioned local folk influences or Anatolian elements as a sign of authenticity, the issue still stands: do platforms systematically undervalue or misclassify these cultural subtleties, hence distorting world music output toward uniform pop genres? Examining how the algorithmic classification of non-Western musical components interacts with worldwide music flows might help to clarify questions of representation and cultural fairness even further. The conflict between local custom and AI-driven production noted in the conversation on authenticity and "artistic guilt" also begs more investigation on how intangible cultural legacy interacts with modern digital technologies. Examining partnerships that combine indigenous music with AI-based creation, for example, can help one to better understand what "genuine creativity" might be in a digitally convergent future.

The concept of direct audience analytics is another subject deserving of more research. Streaming services provide producers a detailed picture of their audience's demographics, listening patterns, and even skip rates. Interviewees acknowledged that this information might be addicting and drive formulaic writing. Some promoted it as a means to hone their strategy or discover specialized fanbases. These conflicting encounters highlight the necessity of a greater conceptual awareness of how creative decision-making is shaped by real-time audience data. Are musicians efficiently internalizing a commercial logic, iterating every new tune depending on daily metrics? Or do they keep a creative bubble by separating themselves from the data? While some styles; like free jazz, can resist or ignore the measures, a cross-genre comparison could show if particular styles; such as electronic dance music or pop are more open to data-driven iteration. Such a project may record the dynamic interaction of data, craft, and imagination using ideas from media studies, psychology, and creative process research.

These future research lines link to a larger issue: will the next decade see a consolidation of major streaming platforms as unstoppable cultural intermediaries, or will new forms of decentralized, community-driven distribution (possibly leveraging blockchain, open protocols, or specialized niche platforms) challenge the hegemony of Spotify and others? The respondents admitted that "democratization" is double-edged; while everyone may contribute music, not everyone can be found. They also spoke of a persistent need on marketing budgets, editorial teams, and large labels to break out on algorithmically controlled platforms. Emerging technology or shifting consumer behavior might one day weaken the strength of these gatekeepers, therefore eroding their influence. But like with past technical changes, there is no certainty that distributed options would result in more fair or artist-friendly consequences. The fragile existence of many streaming-era musicians, who earn little payments unless they generate great streams, points to a continuing power imbalance between platform owners and cultural creators. Research on alternative income sources, direct fan support, or cooperative streaming services might push the limits of these restrictions, showing how strong the economic interests of the system really are.

All things considered, the interviewee’s more general results and insights depict a digital music industry in constant change. In different yet interconnected ways, musicians jump between the difficulties of platformization, algorithmic curation, authenticity, and digital literacy. The technology is acknowledged on one side as a strong enabler: it lowers entrance barriers, encourages cross-genre experimentation, and lets artists hone or share their work free from paternalistic gatekeepers. It increases competitiveness, standardizes aesthetics around data-driven feedback, and creates a climate where a tiny group of high achievers dominates streams while the bulk stays hidden. Though sometimes in the gaps and crevices ignored by popular curation, authentically creative music may nevertheless thrive. The motivation, therefore, is for artists, academics, and business leaders to keep watch on how these procedures change, guaranteeing that technology supports creativity instead of creativity being subservient to technology.

The result is neither one of naive hope nor of despondency. The same respondents who decried the "illusion of democratization" actually praised their ability to create studio-quality songs in their homes, mix AI-based chord progressions with their own writing style, or interact directly with fans via social media. The present time is therefore defined by a difficult but creative interaction: the digitalization of music is a continuous struggle between new freedoms and old limits, between local traditions and global algorithms, and between the spontaneity of art and the needs of data. Limited as this study is, it offers a glimpse of how actual practitioners negotiate that changing environment. A music industry that is more accessible, more "datafied," and more insecure than at any other time in history requires us to think critically about the social, ethical, and cultural consequences.

Further study should, therefore, look not only at the surface-level events, such as reduced track durations or formulaic introductions but also at the underlying human experiences of creative self-determination, digital adoption, and algorithmic co-authorship. Investigations can go beyond these nine interviews to include cross-cultural comparisons or long-term initiatives, so dissecting how the speed of AI changes music's function as cultural expression. Studies might track the evolution of music education as institutions react (or fail to react) to the needs of digital literacy or investigate the intricacies of authenticity in a domain where human and generative systems collaborate. Researchers and practitioners may stay in sync with how the music sector is rebuilt by each new wave of technology by always questioning these issues. From the perspective of this thesis, what is clear is that these changes are far from finished; the next few years will probably intensify and complicate the interaction between artistic freedom and commercial limitation.

Ultimately, although the path of digital music is still in motion, the discussions recorded here indicate that artists still have ability for contemplation and deliberate decision. They discover methods to adjust or create areas of personal expression even under platform policies that push their every release into algorithmic black boxes. They hold on to the belief that real, unique work may be

shaped by authenticity, emotional honesty, or the mark of human legacy, even in a society that values mass-appeal clarity. Musicians create digital literacy that allows them to use technology on their own terms, hence creating new alliances and creative sounds even in a society where data pervades every facet of manufacturing and marketing. Whether these developments lead to a strongly pluralistic music culture or a further concentration of capital and attention in the hands of large industry actors remains an open question, one that future research and continuous artistic innovation will keep investigating. The main point for now is that while technology is changing the laws of music production and consumption, it has not eliminated the timeless human need to investigate, create, and connect via sound. The music itself is an always-unfolding narrative in the interaction of code, algorithms, and creative spirit, molded but not totally confined by the forces that created it. While algorithms and the creative spirit clash, the music itself remains an ever-unfolding story, shaped but not wholly constrained by the forces that brought it into being.

BIBLIOGRAPHY

Acil, T. (2024). *Re-thinking boundaries: The evolution and impact of AI in music and soundscapes*. Avant: Trends in Interdisciplinary Studies, 10(2), 1–15. doi:10.26913/ava2202401

Alexander, P. J. (1994b). New Technology and Market Structure: Evidence from the Music Recording Industry. Journal of Cultural Economics, 18(2), 113-123.

Anderson, C. (2006). *The long tail: Why the future of business is selling less of more*. Hyperion.

Aram, N., Herndon, H.W., Zheng, T.. (2024). *AI has an achy-breaky time in Tennessee protecting artists' voices*. https://natlawreview.com/article/ai-has-achy-breaky-time-tennessee-protecting-artists-voices

Arvidsson, A., & Bonini, T. (2015). Valuing audience passions: From Smythe to Tarde. European Journal of Cultural Studies, 18, 158–173.

Aswad, J. (2024, April 2). *Billie Eilish, Nicki Minaj, and more artists call for AI protections in open letter*. Variety. https://variety.com/2024/music/news/billie-eilish-nicki-minaj-ai-respect-artists-rights-1235957451/

Ateser, S. (2022). *Debates on democratization in popular music production in the Digital age: a sociological review on do-it-yourself musicians* [Master's thesis]. https://tez.yok.gov.tr/UlusalTezMerkezi/

Attali, J., (2017). *Gürültüden müziğe*. Çev. Türkmen, G. G., Ayrıntı. (Original work published in 1977)

Barzilai-Nahon, K. (2008). Toward a theory of network gatekeeping: A framework for exploring information control. Journal of the American Society for Information Science and Technology,59, 1493–1512.

Beato R., Gioia, T., Ted Gioia on AI's Threat To Music. YouTube. https://youtu.be/ibMd_Jx9daw?si=PpL6e9Rbtg616XaY

Becker H. S. (1982) Art Worlds. University of California Press, Berkeley, CA.

Beer, D. (2016). The social power of algorithms. *Information, Communication & Society*, *20*(1), 1–13. https://doi.org/10.1080/1369118X.2016.1216147

Benedek, M., Borovnjak, B., Neubauer, A. C., & Kruse-Weber, S. (2014). Creativity and personality in classical, jazz and folk musicians,. Personality and Individual Differences,, 63, 117-121.

Benjamin, W., (2008). The work of art in the age of mechanical reproduction. Penguin UK. (Original work published in 1935)

Berger, V. (2025, February 28). *How the UK's AI copyright exception hands creators' work to big tech for free*. Forbes. https://www.forbes.com/sites/virginieberger/2025/02/28/how-the-uks-ai-copyright-exception-hands-creators-work-to-big-tech-for-free/

Bialystok, L., (2014), "Authenticity and the Limits of Philosophy", Dialogue, 53(2): 271–298.

Bianchi, D., Avanzini, F., Barate, A., Ludovico, L. A., & Presti, G. (2022). A GPU-oriented application programming interface for digital audio workstations. *IEEE Transactions on Parallel and Distributed Systems*, *33*(8), 1924-1938. https://doi.org/10.1109/tpds.2021.3131659

Binark, M., Demir, E. M., Sezgin, S., & Özsu, G. (2023). Platforms in the Turkish music industry and the new cultural intermediation role of algorithmic curation- Que vadis? *Kültür ve İletişim*, *26(1)*(51), 108-141. https://doi.org/10.18691/kulturveiletisim.1243922

Bonini T., & Gandini A. (2019) 'First week is editorial, second week is algorithmic': platform in the age of platforms. Social Media + Society 5(4): 1–11.

Bonini, T., & Gandini, A. (2020). The Field as a black box: Ethnographic research in the age of gatekeepers and the platformization of music curation. Social Media + Society, 6(4). https://doi.org/10.1177/2056305120984477

Bonini, T., & Magaudda, P. (2024). *Artificial intelligence: Where the music of the future is heading*. In T. Bonini & P. Magaudda (Eds.), Platformed! How Streaming, Algorithms and Artificial Intelligence are Shaping Music Cultures (pp. 121–148). Cham, Switzerland: Palgrave Macmillan. doi:10.1007/978-3-031-43965-0_6

Bourdieu P. (1984). Distinction: A Social Critique of the Judgement of Taste. Cambridge: Harvard University Press.

Bourdieu, P., (2021). Ayrım: Beğeni Yargısının Toplumsal Eleştirisi. Çev. Derya Fırat. Nika.

Boyatzis, R. E. *(1998). Transforming qualitative information: Thematic analysis and code development.* Sage Publications, Inc.

Brandenburg, K. (1999). MP3 and AAC explained. *Fraunhofer Institute for Integrated Circuits FhG-IIS A*. https://www.ee.columbia.edu/~dpwe/papers/Brand99-mp3.pdf

Braun, V., & Clarke, V. (2006). *Using thematic analysis in psychology*. Qualitative Research in Psychology, 3(2), 77–101.

Braun, V., & Clarke, V. (2019). *Reflecting on reflexive thematic analysis*. Qualitative Research in Sport, Exercise and Health, 11(4), 589–597.

Briot, J.P., Hadjeres, G., Pachet, F.D. (2020) *Deep learning techniques for music generation -- A survey*. arXiv.org. https://arxiv.org/abs/1709.01620

Bubeck, S., Chandrasekaran, V., Eldan, R., Gehrke, J., Horvitz, E., Kamar, E., ... & Zhang, Y. (2023). Sparks of artificial general intelligence: Early experiments with gpt-4. *arXiv preprint arXiv:2303.12712*.

Bucher T. (2018) If. . . Then: Algorithmic Power and Politics. New York: Oxford University

Buning, M. de C. (2018). Artificial intelligence and the creative industry: New challenges for the EU paradigm for art and technology. In W. Barfield & U. Pagallo (Eds.), *Research Handbook on the Law of Artificial Intelligence* (pp. 311–332). Edward Elgar Publishing.

Burgess, R. J. (2014), The History of Music Production, New York: Oxford University Press

Burkholder, J., Grout, D., & Palisca, C. (2014). A History of Western Music. New York, London: W. W. Norton & Company.

Chanan, M. (1995). *Repeated takes: A short history of recording and its effects on music*. National Geographic Books.

Chandraseta, R. (2021, January 21). *Generate your favourite characters' voice lines using machine learning*. Towards Data Science. https://towardsdatascience.com/generate-your-favourite-characters-voice-lines-using-machine-learning-c0939270c0c6

Cheshire, T. (2014, January 24). *Jukedeck: The software that writes music by itself, note by note*. WIRED. https://www.wired.com/story/shuffle-your-tunes/

China Briefing. (2023, January). *China to regulate deep synthesis (deepfake) technology starting January 2023*. China Briefing. https://www.china-briefing.com/news/china-to-regulate-deep-synthesis-deep-fake-technology-starting-january-2023/

ChucK Team. (2025). ChucK: A Strongly-Timed Music Programming Language. https://chuck.cs.princeton.edu/

Clarke, V., & Braun, V. (2014). Thematic analysis. Encyclopedia of Critical Psychology,

Coldewey, D. (2022, December 15). *Try 'Riffusion,' an AI model that composes music by visualizing it*. TechCrunch. https://techcrunch.com/2022/12/15/try-riffusion-an-ai-model-that-composes-music-by-visualizing-it/

Columbia Records, (1949), Columbia Records Catalogue, https://urresearch.rochester.edu/institutionalPublicationPublicView.action;jsessionid=5350C75BAE34B4C18B274D952A3B237D?institutionalItemId=15940

Coombes, L. (2024, July 2). *Suno launches iPhone app — now you can make AI music on the go*. Tom's Guide. https://www.tomsguide.com/ai/suno-launches-iphone-app-now-you-can-make-ai-music-on-the-go

Creswell, J. W., & Creswell, J. D. (2018). Research design (5th ed.). SAGE Publications.

Csikszentmihalyi, M. (2007). Creativity: Flow and the psychology of discovery and invention. HarperCollins.

Cummings, A. S. (2013). Democracy of Sound: Music Piracy and the Remaking of American Copyright in the Twentieth Century. New York: Oxford University

Deezer. (2025, January). *Deezer deploys cutting-edge AI detection tool for music streaming*. https://newsroom-deezer.com/2025/01/deezer-deploys-cutting-edge-ai-detection-tool-for-music-streaming/

Deltorn, J.-M., & Macrez, F. (2019). Authorship in the age of machine learning and artificial intelligence. In J. Schovsbo, T. Riis, & T. Holm (Eds.), *The Oxford Handbook of Music Law and Policy* (pp. 1–20). Oxford University Press.

Demir, E. M., Sezgin, S., & Binark, M. (2025). Yapay Zekâ ve Kültürel Üretimin Politik Çerçevelenmesi: Uluslararası Kamu Politikalarından Örneklerin Tartışılması. *Amme İdaresi Dergisi*, 58(1), 97-134.

Eck, D. (2016, June 1). *Welcome to magenta!* Magenta. https://magenta.tensorflow.org/blog/2016/06/01/welcome-to-magenta/

Edwards, B. (2023, June). *Purely AI-generated songs declared ineligible for Grammy Awards*. Ars Technica. https://arstechnica.com/information-technology/2023/06/purely-ai-generated-songs-declared-ineligible-for-grammy-awards/

Emerging Technology from the arXiv. (2016, December 14). *Deep-learning machine listens to Bach, then writes its own music in the same style*. MIT Technology Review. https://www.technologyreview.com/2016/12/14/155416/deep-learning-machine-listens-to-bach-then-writes-its-own-music-in-the-same-style/

Engel, J., Resnick, C., Roberts, A., Dieleman, S., Norouzi, M., Eck, D., & Simonyan, K. (2017). Neural Audio Synthesis of Musical Notes with WaveNet Autoencoders. *ArXiv, abs/1704.01279*.

Eriksson, M., Fleischer, R., Johansson, A., Snickars, P., & Vonderau, P., (2019). Spotify teardown: inside the black box of streaming music. MIT Press.

European Parliament. (2023, June 1). *EU AI Act: First regulation on artificial intelligence*. https://www.europarl.europa.eu/topics/en/article/20230601STO93804/eu-ai-act-first-regulation-on-artificial-intelligence

Featherstone, M.(1991) Consumer Culture and Postmodernism. London: Sage

Feyre, R. (2020), How the Democratization of Music Changed the Industry, Master's Thesis, Salem, Salem State University Department of Media & Communications.

Fiebrink, R., Wang, G., & Cook, P.R. (2009). Foundations for on-the-Fly Learning in the Chuck Programming Language. *International Conference on Mathematics and Computing*.

Fiegerman, S. (2014). The slow decline of peer-to-peer file sharing. Mashable. Retrieved from https://mashable.com/2014/05/14/ file-sharing decline/?europe=true#QT40ILZoAaql

Finze, N., Weeger, A., & Kudor, R. (2024). Wind of Change: The Impact of Music Generating AI Systems on the Identity of Music Producers *ICIS 2024 Proceedings*.

Fishwick, S. (2018, March 1). *Jukedeck uses machine learning to make sweet harmonies*. The Standard. https://www.standard.co.uk/news/tech/jukedeck-maching-learning-ai-startup-music-a3779296.html

Fleischer, R. (2017). If the song has no price, is it still a commodity? Culture Unbound: Journal of Current Cultural Research, 9, 146–162.

Fleischer, R. (2017). If the song has no price, is it still a commodity? Rethinking the commodification of digital music. Culture Unbound, 9(2), 146–162. https://doi.org/10.3384/cu.2000.1525.1792146

Foster P. and Ocejo R. (2013) Cultural intermediaries in an age of disintermediation: brokerage and the production and consumption of culture, in Jones C., Lorenzen M. and Sapsed J. (Eds) Handbook of Creative Industries. Oxford University Press, Oxford

Foster P., Borgatti S. P. and Jones C. (2011) Gatekeeper search and selection strategies: relational and network governance in a cultural market, Poetics 39, 247–265

Franklin, S. W. (2023). The cult of creativity: A surprisingly recent history. University of Chicago Press.

Garcia, T. (2023, May). *YouTube announces AI music principles and incubator with Universal*. Variety. https://variety.com/2023/music/news/youtube-ai-music-principles-ai-incubator-universal-1235701145/

Gianet, E. T., Di Caro, L., & Rapp, A. (2024a). *Music composition as a lens for understanding human-AI collaboration*. In Proceedings of the 1st International Workshop on Designing and Building Hybrid Human–AI Systems (SYNERGY 2024). Genoa, Italy: CEUR Workshop Proceedings.

Gianet, E. T., Di Caro, L., & Rapp, A. (2024b). *Redefining the user in human-generative AI collaboration: Insights from music composition*. In Extended Abstracts of the 2024 CHI Conference on Human Factors in Computing Systems. New York, NY: ACM.

Gillespie, T. (2018). Custodians of the internet. New Haven, CT: Yale University Press.

Gooden, D. (2024). *AI is ruining the internet*. YouTube. https://youtu.be/UShsgCOzER4?si=EC8BIcF29p-BmcXx

Graham, G., Burnes, B., Lewis, G. J., & Langer, J. (2004). The transformation of the music industry supply chain: A major label perspective. *International Journal of Operations & Production Management*, 24(11), 1087–1103. https://doi.org/10.1108/01443570410563241

Griggs, B. (2013). *How iTunes changed music, and the world.* CNN. https://edition.cnn.com/2013/04/26/tech/web/itunes-10th-anniversary/index.html

Gronow, P. (1983). The record industry: the growth of a mass medium. Popular Music, 3, 53-75.

Gronow, P. (2021). Music Recording and the Recording Industry. In S. K. Bridge (Ed.), The Oxford Handbook of Global Popular Music (online ed.). Oxford Academic

Guadamuz, A. (2017). Do androids dream of electric copyright? Comparative analysis of originality in artificial intelligence generated works. *Intellectual Property Quarterly*, 2017(2), 169–186.

Guilford, J. P. (1967). *The nature of human intelligence*. McGraw-Hill.

Hachman, M. (2024, April 11). *Udio's AI music is my new obsession*. PCWorld. https://www.pcworld.com/article/2302035/udios-ai-music-is-my-new-obsession.html

Hagen, A. N. (2022), “Datafication, Literacy and Democratization in the Music Industry”, Popular Music and Society 45(2): 184-201.

Haiven, M. (2018). Radikal Hayalgücü ve İktidarın Krizleri: Kapitalizm,Yaratıcılık,Müşterekler. Sel Yayıncılık.

Hanchett Hanson, M. (2015). The ideology of creativity and challenges of participation. *Europe’s Journal of Psychology*, 11(3), 369–378. https://doi.org/10.5964/ejop.v11i3.1032

Harrison, K. (2024, December 13). *OpenAI employee claims AGI has been achieved*. Orbital Today. https://orbitaltoday.com/2024/12/13/openai-employee-claims-agi-has-been-achieved/

Helmond, A. (2015). The Platformization of the web: Making web data platform ready. Social Media + Society, 1(2). https://doi.org/10.1177/2056305115603080

Herrman, J. (2022, June 16). The New York Times - Breaking News, US News, World News and Videos. https://www.nytimes.com/2022/06/16/style/tiktok-viral-music-marketing.html

Hesmondhalgh, D. (2019), “Have Digital Communication Technologies Democratized the Media Industries?”, in Hesmondhalgh D., Curran, J. (Ed.) Media and Society, New York: Bloomsbury

Hesmondhalgh, D. (2021), “Streaming’s Effects on Music Culture: Old Anxieties and New Simplifications”, Cultural Sociology 16(1).

Hesmondhalgh, D. (2021). Streaming’s Effects on Music Culture: Old Anxieties and New Simplifications. Cultural Sociology, 16(1), 3-24. https://doi.org/10.1177/17499755211019974 (Original work published 2022)

Hesmondhalgh, D., & Meier, L. M. (2018). What the digitalisationof music tells us about capitalism, culture and the power of the information technology sector. Information, Communication & Society, 21, 1555–1570.

Hiatt, B. (2024, April 10). *AI-music arms race: Meet Udio, the other ChatGPT for music*. Rolling Stone. https://www.rollingstone.com/music/music-features/udio-ai-music-chatgpt-suno-1235001675/

Hight, J. (2024, April 25). *Tennessee’s ELVIS Act is the first law protecting an artist’s voice from AI*. https://www.npr.org/2024/04/25/1246928162/generative-ai-music-law-technology

Hirsch, Paul (1972) ‘Processing fads and fashions: an organisational set analysis of cultural industry systems’. American Journal of Sociology, 77(4): 639–59

Hogan, M. (2015, July 16). Up next: How playlists are curating the future of music. *Pitchfork*. https://pitchfork.com/features/article/9686-up-next-how-playlists-are-curating-the-future-of-music/

Holmes, T. (2020). *Electronic and Experimental Music: Technology, Music, and Culture* (6th ed.). Routledge. https://doi.org/10.4324/9780429425585

Huang, C.-Z. A., Koops, H. V., Newton-Rex, E., Dinculescu, M., & Cai, C. J. (2020). *AI Song Contest: Human-AI co-creation in songwriting*. In Proceedings of the 21st International Society for Music Information Retrieval Conference (ISMIR 2020) (pp. 647–654).

Huang, H. (2023, August 23). *How ChatGPT turned generative AI into an "anything tool"*. Ars Technica.

Ingham, T. (2018). *The odds of an artist becoming a 'top tier' earner on Spotify today? Less than 1%*. https://www.musicbusinessworldwide.com/the-odds-of-an-artist-becoming-a-top-tier-earner-on-spotify-today-less-than-1/

Ingham, T. (2019, July 23). *TikTok owner Bytedance buys AI music company Jukedeck*. Music Business Worldwide. https://www.musicbusinessworldwide.com/tiktok-parent-bytedance-buys-ai-music-company-jukedeck/

Ingham, T. (2023, November). *UMG's AI training injunction request shot down by judge in Anthropic lawsuit*. Music Business Worldwide. https://www.musicbusinessworldwide.com/umgs-ai-training-injunction-request-shot-down-by-judge-in-anthropic-lawsuit-but-music-publishers-can-now-gather-more-evidence-from-platform/

Inman, D. (2023). *Timbaland previews AI-generated Notorious B.I.G. collaboration*. VIBE. https://www.vibe.com/music/music-news/timbaland-song-notorious-big-ai-technology-1234754571/

International Federation of Phonographic Industries (IFPI) Global Music Report (2021), https://www.ifpi.org/ifpi-issues-annual-global-music-report-2021/,

International Federation of Phonographic Industries (IFPI) Global Music Report (2022), 2021 https://www.ifpi.org/ifpi-global-music-report-global-recorded-music-revenues-grew-18-5-in-2021/

International Federation of Phonographic Industries (IFPI) IFPI Global Music Report 2024. https://globalmusicreport.ifpi.org/

Internet Live Stats, (2024), Internet Statistics, https://www.internetlivestats.com/internet-users/

Johnson, A. (2023, May 9). *Spotify removes tens of thousands of AI-generated songs—here's why*. Forbes. https://www.forbes.com/sites/ariannajohnson/2023/05/09/spotify-removes-tens-of-thousands-of-ai-generated-songs-heres-why/

Johnson, G. (1997, November 11). Undiscovered Bach? No, a computer wrote it. *The New York Times*. https://www.nytimes.com/1997/11/11/science/undiscovered-bach-no-a-computer-wrote-it.html

Jung, C. G. (1971). Two Essays in Analytical Psychology, Second Edition, Edt. Sir

Herbert, Fordham, M., Adler, G. Ve McGuire, W., Princeton University Press, U.S.A.

Jurek, M., Bhanu, N., Zhao, W., Nielsen, S., Burnam, S., & Engel, J. (2022, June 8). *DDSP-VST: Neural audio synthesis for all*. Magenta. https://magenta.tensorflow.org/ddsp-vst-blog

Kaleagasi, B. (2017, March 9). *A new AI can write music as well as a human composer*. Futurism. https://futurism.com/a-new-ai-can-write-music-as-well-as-a-human-composer

Kallio, H., et al. (2016). Systematic methodological review: developing a framework for a qualitative semi-structured interview guide. *Journal of Advanced Nursing, 72*(12), 2954–2965.

Katayose, H., & Inokuchi, S. (1989). The Kansei music system. *Computer Music Journal*, *13*(4), 72. https://doi.org/10.2307/3679555

Kaufman, J. C., Glaveanu, V. P., & Baer, J. (2019). The Cambridge Handbook of Creativity. Cambridge University Press.

Kaur, H. (2022, August 24). *Capitol Records drops AI rapper FN Meka after backlash over racial stereotyping*. CNN. https://edition.cnn.com/2022/08/24/entertainment/fn-meka-dropped-capitol-records-cec/index.html

Kaymas, S. (2019). Türk Dünyasında Kültür ve Yaratıcı Endüstri Yönetişimi Üzerine Bir Değerlendirme. *Bilig - Türk Dünyası Sosyal Bilimler Dergisi*, 90, 215-243. https://doi.org/10.12995/bilig.9010-776669

Kefauver, A. P., & Patschke, D. (2007). *Fundamentals of digital audio*. A-R Editions.

King, H. (2023, December 20). *Exclusive: Gen AI music app Suno comes out of stealth*. Axios. https://www.axios.com/2023/12/20/suno-gen-ai-music-microsoft

Kirn, P. (2020, March 3). *That time in 1965 when a teen ray Kurzweil made a computer compose music and met LBJ*. CDM Create Digital Music. https://cdm.link/ray-kurzweil-ai-music-1965/

Kitchin, R. (2017). Thinking critically about and researching algorithms. Information, Communication & Society, 20, 14–29.

Kristeller, P. O. (1983). "Creativity" and "Tradition". Journal of the History of Ideas, 44(1),

Krueger, A. B. (2020). *Rockonomics: What the music industry can teach us about economics (and our future)*. John Murray.

Langlois, G., McKelvey, F., Elmer, G., & Werbin, K. (2009). Mapping commercial Web 2.0 worlds: Towards a new critical ontogenesis. *The Fibreculture Journal*, (14). https://fourteen.fibreculturejournal.org/fcj-095-mapping-commercial-web-2-0-worlds-towards-a-new-critical-ontogenesis/

Lauber-Rönsberg, A., & Hetmank, S. (2019). The concept of authorship and inventorship under pressure: Does artificial intelligence shift paradigms? *Journal of Intellectual Property Law & Practice*, 14(7), 570–579.

Lawrence, A. (2024, May 9). *'I bet Drake heard it and laughed': BBL Drizzy is the real winner of the Drake-Kendrick feud*. the Guardian. https://www.theguardian.com/music/article/2024/may/09/drake-kendrick-lamar-bbl-drizzy-song

Leach, B. (2009, October 22). *Emily Howell: the computer program that composes classical music*. https://www.telegraph.co.uk/culture/music/music-news/6404737/Emily-Howell-the-computer-program-that-composes-classical-music.html

Lingo E. L., O'Mahony S. (2010) Nexus work: brokerage on creative projects, Administrative Science Quarterly 55, 47–81.

Louie, R., Coenen, A., Huang, C.-Z., Terry, M., & Cai, C. J. (2020). *Novice–AI music co-creation via AI-steering tools for deep generative models*. In Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems (Paper 195, 13 pages). New York, NY: ACM. doi:10.1145/3313831.3376739

Maasø, A., & Hagen, A. N. (2020). Metrics and decision-making in music streaming. *Popular Communication*, 18(1), 18–31.

Maasø, A., & Spilker, H. S. (2022). The streaming paradox: Untangling the hybrid gatekeeping mechanisms of music streaming. *Popular Music and Society*, 45(3), 300–316. https://doi.org/10.1080/03007766.2022.2026923

Macaya, A., Cádiz, R. F., Cartagena, M., & Parra, D. (2024). *Latent Chords: Generative piano chord synthesis with variational autoencoders*. In Proceedings of the IUI 2020 Workshop on Human-AI Co-Creation with Generative Models (HAI-GEN) (pp. 1–4). Cagliari, Italy: CEUR Workshop Proceedings.

Magenta. (2024). Make Music and Art using Machine Learning. https://magenta.tensorflow.org/

Manning, P. (2013). Electronic and Computer Music. Oxford University Press. https://doi.org/10.1093/acprof:oso/9780199746392.001.0001

Marshall, A. (2017, January 22). *From Jingles to Pop Hits, A.I. Is Music to Some Ears*. The New York Times. https://www.nytimes.com/2017/01/22/arts/music/jukedeck-artificial-intelligence-songwriting.html

Martland, P. (2013). Recording history: the British record industry, 1888-1931. London: The Scarecrow Press.

Mason J (2002). Qualitative Researching (2nd edn) London: Sage Publications.

McCormack, J., Gifford, T., Hutchings, P., Llano, M. T., Yee-King, M., & d'Inverno, M. (2024). *In a silent way: Communication between AI and improvising musicians beyond sound*. Proceedings of the ACM CHI Conference on Human Factors in Computing Systems, Paper 59, 11 pages. doi:10.1145/3290605.3300349

McMillan, J. H. & Schumacher, S. (1993). Research in education: A conceptual understanding. New York: Harper Collins.

Merchán Sánchez-Jara, J. F., González Gutiérrez, S., Cruz Rodríguez, J., & Syroyid, B. (2024). *Artificial intelligence-assisted music education: A critical synthesis of challenges and opportunities*. Education Sciences, 14(11), 1171. doi:10.3390/educsci14111171

Michaux, B. (2018). Singularité technologique, singularité humaine et droit d'auteur. In J.-M. Bruguière, J.-B. Racine, & C. Rochfeld (Eds.), *Droits, Normes et Libertés dans le Cybermonde* (pp. 401–416). Kluwer.

MIDI. *The history of MIDI*. (2024, July 8). MIDI.org. https://midi.org/the-history-of-midi

Millard, A. (2005). *America on record: A history of recorded sound*. Cambridge University Press.

Miranda, E. R. (2021). *Handbook of artificial intelligence for music: Foundations, advanced approaches, and developments for creativity*. Springer Nature.

Moog Music. *The Early Years Of The Moog Synthesizer*. (2025). https://www.moogmusic.com/news/early-years-moog-synthesizer

Moriquand, D. (2024, April 3). *Artists warn against 'predatory' use of AI in music*. euronews. https://www.euronews.com/culture/2024/04/03/artists-sign-open-letter-warning-against-predatory-use-of-ai-in-music

Moyon, E., & Lecocq, X. (2014). Rethinking business models in creative industries: The case of the French record industry. *International Studies of Management & Organization*, 44(4), 83–101. https://doi.org/10.2753/IMO0020-8825440405

Maslow, A. H. (1954). Motivation and personality. Harper & Row,Publishers, Inc.

Maslow, A. H. (1993). The farther reaches of human nature. Penguin Books

Mulligan, M. (2021). Music market shares: independent labels and artists are even bigger than you thought. Retrieved from Midia Research: https://www.midiaresearch.com/blog/music-market-shares-independent-labels-and-artists-are-even-bigger-than-you-thought

Music Recording Industry. Journal of Cultural Economics, 18(2), 113-123.

Nasi, M. (2022, December 15). *Riffusion: Creare tracce audio con l'intelligenza artificiale*. IlSoftware.it. https://www.ilsoftware.it/riffusion-creare-tracce-audio-con-l-intelligenza-artificiale_25375/

Negus K. (2002) The work of cultural intermediaries and the enduring distance between production and consumption, Cultural Studies 16(4), 501–515.

Newman, M. et al. (2023). Human-AI Music Creation: Understanding the Perceptions of Creators *Proceedings of the 24th ISMIR Conference*.

Nieborg, D. B., & Poell, T. (2018). The platformization of cultural production: Theorizing the contingent cultural commodity. New Media & Society, 20(11), 4275–4292.

Nixon S. and Du Gay P. (2002) Who needs cultural intermediaries?, Cultural Studies 16(4), 495–500.

Olterman, P., & Cole, D. (2024, August 18). *AI-generated parody song about immigrants storms into German top 50*. the Guardian. https://www.theguardian.com/technology/article/2024/aug/18/artificial-intelligence-song-immigrants-germany-top-50

OpenAI. (2019, April 15). *OpenAI Five defeats Dota 2 world champions*. https://openai.com/index/openai-five-defeats-dota-2-world-champions/

Pasquale, F. (2015). The black box society. Harvard: Harvard University Press.

Passman, D. S. (2019). All you need to know about the music business (10th ed.). Simon & Schuster.

Passman, D. S. (2019). *All you need to know about the music business* (10th ed.). Simon & Schuster.

Patton, M. Q. (2015). *Qualitative Research & Evaluation Methods* (4th ed.). Sage.

Pearson, J. (2024, June 24). *RIAA sues AI music generators Udio and Suno for copyright infringement*. The Verge. https://www.theverge.com/24186085/riaa-lawsuits-udio-suno-copyright-fair-use-music

Peterson, R.(1976) 'The production of culture. A prolegomenon'. In R. Peterson (ed.) The Philosophy. https://plato.stanford.edu/entries/authenticity/ Production of Culture. London: Sage, 7–22.

Pinch, T., & Trocco, F. (2004). *Analog days: The invention and impact of the moog synthesizer*. Harvard University Press.

Plato. (2024). *Ion* (B. Jowett, Trans.). *The Internet Classics Archive*. http://classics.mit.edu/Plato/ion.html (Original work published ca. 380 B.C.E.)

Poell, T., Nieborg, D. B., & Duffy, B. E. (2021). Platforms and cultural production. John Wiley & Sons.

Prey, R. (2018, October). Platform pop. Paper presented at the Platformization of Cultural Production Workshop, Toronto, Ontario, Canada.

Ramalho, A. (2017). Will robots rule the (artistic) world? A proposed model for the legal status of creations by artificial intelligence systems. *Journal of Internet Law*, 21(1), 12–25.

Reed, R. (2023, May 02). *AI created a song mimicking the work of Drake and The Weeknd. What does that mean for copyright law?*

https://hls.harvard.edu/today/ai-created-a-song-mimicking-the-work-of-drake-and-the-weeknd-what-does-that-mean-for-copyright-law/

Reuters. (2022, December 12). *China's rules for "deepfakes" to take effect from Jan. 10. Reuters. https://www.reuters.com/technology/chinas-rules-deepfakes-take-effect-jan-10-2022-12-12/#:~:text=SHANGHAI%2C%20Dec%2012%20%28Reuters%29%20,called%20%22deepfake%22%20technology%20and%20services*

Rhea, T. L., & Weidenaar, R. (1988). The Telharmonium: A history of the first music synthesizer, 1893-1918. *Computer Music Journal*, *12*(3), 59. https://doi.org/10.2307/3680338

Roads, C. (1985). Research in music and artificial intelligence. *ACM Computing Surveys*, *17*(2), 163-190. https://doi.org/10.1145/4468.4469

Robinson, K. (2023, May). *Timbaland's AI Notorious B.I.G. collaboration raises ethical questions*. Billboard. https://www.billboard.com/pro/notorious-big-timbaland-ai-collab-raises-questions/

Romo, V. (2023, April 24). *Grimes invites fans to use her AI voice for songs*. NPR. https://www.npr.org/2023/04/24/1171738670/grimes-ai-songs-voice

Rosman, R. (2024, March 22). *Tennessee becomes first state to protect musicians from AI impersonation*. https://www.npr.org/2024/03/22/1240114159/tennessee-protect-musicians-artists-ai#

Rosman, R. (2024, March 22). *Tennessee becomes the first state to protect musicians and other artists against AI*. NPR. https://www.npr.org/2024/03/22/1240114159/tennessee-protect-musicians-artists-ai

Roush, T. (2023, August 8). Google and Universal Music Group negotiating AI-generated music tool, report says. Forbes. https://www.forbes.com/sites/tylerroush/2023/08/08/google-and-universal-music-group-negotiating-ai-generated-music-tool-report-says/

Runco, M. A., & Jaeger, G. J. (2012). The standard definition of creativity. *Creativity Research Journal*, *24*(1), 92–96. https://doi.org/10.1080/10400419.2012.650092

Ryan, J., Peterson, R., (1982) ‘The product image: the fate of creativity in country music songwriting’. In Ettema J. & Whitney D. (eds) Individuals in Mass Media Organizations: Creativity and Constraint. London: Sage, 11–32.

Sanganeria, M., & Gala, R. (2024). *Tuning music education: AI-powered personalization in learning music*. arXiv:2412.13514 [cs.AI].

Sawyer, R. K. (2006). Group creativity: musical performance and collaboration. Psychology of Music, 34(2). https://doi.org/10.1177/0305735606061850

Schwartz, E. H. (2023, January 25). *How China’s new deepfake rules restrict synthetic media*. https://voicebot.ai/2023/01/25/how-chinas-new-deepfake-rules-restrict-synthetic-media/

Scott A. J. (2000) The Cultural Economy of Cities. Sage, London.

Scott A. J. (2006) Entrepreneurship, innovation and industrial development: geography and the creative field revisited, Small Business Economics 26, 1–24.

Scott A. J. (2010) Cultural economy and the creative field of the city, Geografiska Annaler: Series B, Human Geography 92(2), 115–130.

Seaver, N. (2013, April). Knowing algorithms. Paper presented at Media in Transition 8, Cambridge, MA. Retrieved from http://nickseaver.net/papers/seaverMiT8.pdf

Seaver, N. (2017). Algorithms as culture: Some tactics for the ethnography of algorithmic systems. Big Data & Society, 4(2),1–12. doi:10.1177/2053951717738104

Shah, N. (2017, November 15). The music industry’s new gate-keepers. The Wall Street Journal. Retrieved from https://www.wsj.com/articles/the-music-industrys-new-gatekeep-ers-1510761601

Shelley, P. B. (2009, October 13). *A defence of poetry*. Poetry Foundation. https://www.poetryfoundation.org/articles/69388/a-defence-of-poetry

Shuker, R. (2002), Popular Music: The Key Concepts, New York: Routledge.

Smith, D., & Wood, C. (1981). The 'USI', or Universal Synthesizer Interface. *Journal of The Audio Engineering Society*.

Smith, S. (2013, January 2). *Iamus: Is this the 21st century's answer to Mozart?* BBC News. https://www.bbc.com/news/technology-20889644

Southern, T. (2018, May 11). *Algo-rhythms: The future of album collaboration*. TechCrunch. https://techcrunch.com/2018/05/10/ai-is-the-future-of-rhythm-nation/

Stability AI. (2024, October 14). *Stable diffusion public release — Stability AI*. https://stability.ai/news/stable-diffusion-public-release

Stassen, M. (2024). *Over 1,000 songs with human-mimicking AI vocals released by Tencent Music in China*. https://www.musicbusinessworldwide.com/over-1000-songs-human-mimicking-ai-vocals-have-been-released-by-tencent-music-in-china-one-of-them-has-over-100m-streams/

Statista, (2010), Percentage of Households with a Computer at Home in the US from 1984 to 2010, https://www.statista.com/statistics/184685/percentage-of-households-with-computer-in-the-united-states-since-1984/

Statt, N. (2020, April 28). *Jay-Z's Roc Nation gets YouTube to remove AI-generated deepfake videos*. The Verge. https://www.theverge.com/2020/4/28/21240488/jay-z-deepfakes-roc-nation-youtube-removed-ai-copyright-impersonation

Steinberg. (2024). *Our technologies*. https://www.steinberg.net/technology/

Stryker, C., & Scapicchio, M. (2024, March 22). *What is generative AI?* IBM - United States. https://www.ibm.com/think/topics/generative-ai

Sturm, B. L. T., Iglesias, M., Ben-Tal, O., Miron, M., & Gómez, E. (2019). Artificial intelligence and music: Open questions of copyright law and engineering praxis. *Arts*, 8(3), 115. https://doi.org/10.3390/arts8030115

Suh, M., & Youngblom, E. (2024). *AI as social glue: Uncovering the roles of deep generative AI during social music composition*. In Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems (Paper 664, 13 pages). New York, NY: ACM. doi:10.1145/3411764.3445219

Tchemeube, R. B., Ens, J., Plut, C., Pasquier, P., Saf, M., Grabit, Y., & Rolland, J.-B. (2024). *Evaluating human-AI interaction via usability, user experience and acceptance measures for MMM-C: A creative AI system for music composition*. In Proceedings of the 32nd International Joint Conference on Artificial Intelligence (IJCAI 2023), Arts and Creativity Track (pp. 5769–5776).

Terranova, T. (2004). Network culture: Politics for the Information Age. Pluto Press.

Théberge, P. (1997). *Any sound you can imagine: Making music/Consuming technology*. Wesleyan University Press.

Théberge, P. (2004). The network studio. *Social Studies of Science*, *34*(5), 759-781. https://doi.org/10.1177/0306312704047173

Theberge, P. (2012) The end of the world as we know it: The changing role of the studio in the age of the internet. Routledge

Théberge, P. (2023). Any sound you can imagine: Then and now. *Journal of Popular Music Education, 7*(2), 219–229. https://doi.org/10.1386/jpme_00115_1

Tschmuck, P. (2012). Creativity and Innovation in the Music Industry (2 ed.). Springer.

Tufekci, Z. (2015). Algorithmic harms beyond Facebook and Google: Emergent challenges of computational agency. Journal on Telecommunication and High Technology Law, 13, 203–218.

Van Dijck, J., Poell, T., & de Waal, M. (2018). The platform society: Public values in a connective world. Oxford, UK: Oxford University Press.

Varga, S. (2014). Authenticity (Stanford encyclopedia of philosophy). Stanford Encyclopedia of

Vincent, J. (2023, May 9). *How ChatGPT turned generative AI into an "anything tool"*. Ars Technica. https://arstechnica.com/ai/2023/08/how-chatgpt-turned-generative-ai-into-an-anything-tool/

Ward, A. (2023, December 21). *How to use Microsoft copilot's new Suno AI music creation tool*. Tech.co. https://tech.co/news/how-to-use-microsoft-copilot-suno-ai-music

Weiner, R. (2000). Creativity and beyond: Cultures, values, and change. SUNY Press.

Welch, Chris. (2023, November 2). *The Beatles' 'Now and Then' uses AI to bring John Lennon back to life*. The Verge. https://www.theverge.com/2023/11/2/23943290/now-and-then-the-beatles-new-song-ai

Witt, S. (2020). *Bedava Müzik: Bir Mucit, Bir Patron ve Bir Hırsız Müzik Endüstrisini Nasıl Altüst Etti?* Mundi Kitap.

Zagorski-Thomas, S. (2014). *The Musicology of Record Production*. Cambridge: Cambridge University Press.

Zaripov, R. K. (1960). An algorithmic description of a process of musical composition. *Dokl. Akad. Nauk SSSR*, *132*(6), 1283-1286. https://www.mathnet.ru/eng/dan23732

Zuboff, V. S. (2014), *Shoshan Zuboff on "Big data" as surveillance capitalism* FAZ.NET. https://www.faz.net/aktuell/feuilleton/debatten/the-digital-debate/shoshan-zuboff-on-big-data-as-surveillance-capitalism-13152525.html

Zwicker, E., & Fastl, H. (2013). *Psychoacoustics: Facts and models*. Springer Science & Business Media.

APPENDIX 1 ORIGINALITY REPORT

	HACETTEPE ÜNİVERSİTESİ SOSYAL BİLİMLER ENSTİTÜSÜ	Doküman Kodu *Form No.*	FRM-YL-15
		Yayım Tarihi *Date of Pub.*	04.12.2023
	FRM-YL-15 **Yüksek Lisans Tezi Orijinallik Raporu** *Master's Thesis Dissertation Originality Report*	Revizyon No *Rev. No.*	02
		Revizyon Tarihi *Rev.Date*	25.01.2024

HACETTEPE ÜNİVERSİTESİ
SOSYAL BİLİMLER ENSTİTÜSÜ
RADYO, TELEVİZYON VE SİNEMA ANABİLİM DALI BAŞKANLIĞINA

Tarih: 13/06/2025

Tez Başlığı: Dijitalleşme, Yapay Zeka ve Müzisyen Yaratıcılığı
Tez Başlığı (Almanca/Fransızca)*:.....

Yukarıda başlığı verilen tezimin a) Kapak sayfası, b) Giriş, c) Ana bölümler ve d) Sonuç kısımlarından oluşan toplam 176 sayfalık kısmına ilişkin, 13/06/2025 tarihinde şahsım/tez danışmanım tarafından Turnitin adlı intihal tespit programından aşağıda işaretlenmiş filtrelemeler uygulanarak alınmış olan orijinallik raporuna göre, tezimin benzerlik oranı % 3 'dır.

Uygulanan filtrelemeler**:

1. ☐ Kabul/Onay ve Bildirim sayfaları hariç
2. ☒ Kaynakça hariç
3. ☒ Alıntılar hariç
4. ☐ Alıntılar dâhil
5. ☒ 5 kelimeden daha az örtüşme içeren metin kısımları hariç

Hacettepe Üniversitesi Sosyal Bilimler Enstitüsü Tez Çalışması Orijinallik Raporu Alınması ve Kullanılması Uygulama Esasları'nı inceledim ve bu Uygulama Esasları'nda belirtilen azami benzerlik oranlarına göre tezimin herhangi bir intihal içermediğini; aksinin tespit edileceği muhtemel durumlarda doğabilecek her türlü hukuki sorumluluğu kabul ettiğimi ve yukarıda vermiş olduğum bilgilerin doğru olduğunu beyan ederim.

Gereğini saygılarımla arz ederim.

Taha Berke Çoruh

Öğrenci Bilgileri		
	Ad-Soyad	Taha Berke Çoruh
	Öğrenci No	N22131259
	Enstitü Anabilim Dalı	Radyo, Televizyon ve Sinema
	Programı	Yüksek Lisans

DANIŞMAN ONAYI

UYGUNDUR.
Prof. Dr. Ferruh Mutlu BİNARK

* Tez **Almanca veya Fransızca** yazılıyor ise bu kısımda tez başlığı **Tez Yazım Dilinde** yazılmalıdır.
**Hacettepe Üniversitesi Sosyal Bilimler Enstitüsü Tez Çalışması Orjinallik Raporu Alınması ve Kullanılması Uygulama Esasları İkinci bölüm madde (4)/3'te de belirtildiği üzere: Kaynakça hariç, Alıntılar hariç/dahil, 5 kelimeden daha az örtüşme içeren metin kısımları hariç (Limit match size to 5 words) filtreleme yapılmalıdır.

	HACETTEPE ÜNİVERSİTESİ SOSYAL BİLİMLER ENSTİTÜSÜ	Doküman Kodu *Form No.*	FRM-YL-15
		Yayım Tarihi *Date of Pub.*	04.12.2023
	FRM-YL-15 **Yüksek Lisans Tezi Orijinallik Raporu** *Master's Thesis Dissertation Originality Report*	Revizyon No *Rev. No.*	02
		Revizyon Tarihi *Rev.Date*	25.01.2024

TO HACETTEPE UNIVERSITY
GRADUATE SCHOOL OF SOCIAL SCIENCES
DEPARTMENT OF RADIO, TELEVISION AND CINEMA

Date: 13/06/2025

Thesis Title (In English): Digitalization, Artificial Intelligence and Musician Creativity

According to the originality report obtained by myself/my thesis advisor by using the Turnitin plagiarism detection software and by applying the filtering options checked below on 13/06/2025 for the total of 176 pages including the a) Title Page, b) Introduction, c) Main Chapters, and d) Conclusion sections of my thesis entitled above, the similarity index of my thesis is 3 %.

Filtering options applied**:

1. ☐ Approval and Decleration sections excluded
2. ☒ References cited excluded
3. ☒ Quotes excluded
4. ☐ Quotes included
5. ☒ Match size up to 5 words excluded

I hereby declare that I have carefully read Hacettepe University Graduate School of Social Sciences Guidelines for Obtaining and Using Thesis Originality Reports that according to the maximum similarity index values specified in the Guidelines, my thesis does not include any form of plagiarism; that in any future detection of possible infringement of the regulations I accept all legal responsibility; and that all the information I have provided is correct to the best of my knowledge.

Kindly submitted for the necessary actions.

Taha Berke Çoruh

Student Information		
	Name-Surname	Taha Berke Çoruh
	Student Number	N22131259
	Department	Radyo, Televizyon ve Sinema
	Programme	Yüksek Lisans

SUPERVISOR'S APPROVAL

APPROVED
Prof. Dr. Ferruh Mutlu BİNARK

**As mentioned in the second part [article (4)/3]of the Thesis Dissertation Originality Report's Codes of Practice of Hacettepe University Graduate School of Social Sciences, filtering should be done as following: excluding refence, quotation excluded/included, Match size up to 5 words excluded.

APPENDIX 2 ETHICS COMMISSION FORM

T.C.
HACETTEPE ÜNİVERSİTESİ REKTÖRLÜĞÜ
Sosyal ve Beşeri Bilimler Araştırma Etik Kurulu

Sayı : E-66777842-300-00003053800 05/09/2023
Konu : Etik Komisyon İzni (Prof. Dr. Ferruh Mutlu BİNARK)

SOSYAL BİLİMLER ENSTİTÜSÜ MÜDÜRLÜĞÜNE

İlgi : 14.08.2023 tarihli ve E-12908312-300-00003016030 sayılı yazınız.

Enstitünüz Radyo Televizyon ve Sinema Anabilim Dalı Yüksek Lisans Programı öğrencilerinden **Taha Berke ÇORUH**'un **Prof. Dr. Ferruh Mutlu BİNARK** danışmanlığında hazırladığı "**Dijitalleşme, Yapay Zeka ve Müzisyen Yaratıcılığı**" başlıklı tez çalışması Üniversitemiz Sosyal ve Beşeri Bilimler Araştırma Etik Kurulunun **22 Ağustos 2023** tarihinde yapmış olduğu toplantıda incelenmiş olup, etik açıdan uygun bulunmuştur.

Bilgilerinizi ve gereğini rica ederim.

Prof. Dr. İsmet KOÇ
Kurul Başkanı

Bu belge güvenli elektronik imza ile imzalanmıştır.

Belge Doğrulama Kodu: 1700005F-6AED-42C3-9D34-1E24A6A7400E Belge Doğrulama Adresi: https://www.turkiye.gov.tr/hu-ebys

Adres:
E-posta: Elektronik Ağ: www.hacettepe.edu.tr
Telefon: Faks:
Kep:

Bilgi için: Çağla Handan GÜL
Bilgisayar İşletmeni
Telefon: 03123051008