The Impact of AI-Generated Music on Human Creativity in the Music Industry

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On my honor as a University student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments.

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Introduction

Music has always been a reflection of human culture, evolving alongside advances in technology and society. From the earliest recovered Gregorian chants to the advent of recorded music in the 20th century, each technological shift has expanded music's reach across generations. In recent years, however, artificial intelligence technology advancements have increasingly transformed the music industry. AI-generated music platforms have introduced a new era where compositions can be created in seconds based on simple text prompts. Compared to the years of training and creative dedication that musicians and composers invest in, generative AI can dramatically shorten the production time of music, which calls into question the value of human expertise in a field increasingly influenced by automation.

As a classically trained pianist with over 16 years of experience, I can understand the rigor and passion required to bring musical compositions to life. Beyond performances, I have also explored composition, including a computer music composition class where I experimented with digital tools to create original compositions. I recall spending hours, even days, structuring harmonies and refining my drum beats only to produce a short thirty-second piece. Yet today, AI models can generate a comparable or even polished composition within seconds. This raises fundamental questions about the role of human effort in the creative process, which causes the stark contrast between the efficiency of AI and the time-consuming nature of human creativity to become more apparent.

While generative AI offers new and accessible tools for artists to produce music, it simultaneously poses a significant threat to traditional career paths in music. Composers and producers, whose livelihoods depend on their ability to create music, face growing competition from generative AI algorithms that can easily replicate stylistic nuances and perform complex

tasks such as mixing and mastering. For example, platforms such as Google's MusicLM create melodies based on a specific text, and LANDR is a music production software that provides automated mastering services. With the popularity of programs like these, the need for composers and producers would be further displaced. Though live concert performances still retain a unique human touch that generative AI struggles to replicate, the potential of AI-generated music is rapidly expanding to areas that were once the exclusive domain of trained professionals.

These technological developments pose the question: How does AI-generated music in commercial production affect human composers, musicians, and music producers? AI supporters argue that AI tools empower composers and producers by offering creative outlooks and assistance in streamlining production processes, but I believe there are continuing concerns about artistic authenticity, job displacement, and the shifting definition of musicianship. While AI-based tools enable new, accessible methods of music production, they also risk devaluing the human expression that distinguishes musical art forms. As technologies become more widely adopted, composers and music producers may find that they are competing with these algorithms while facing fewer career opportunities in an industry that once depended on human creativity.

To better understand AI's impact on the music industry, I conducted a discourse analysis on relevant resources from the past 15 years, including existing surveys, news articles, and research publications. This analysis focuses on the narratives and ethical concerns raised by industry professionals to provide insights into how AI is shaping creativity and labor in music. Through qualitative analysis, I identified recurring themes and examined the unique ways AI affects different sectors – composition, performance, and production. This research explores not

only the practical effects of AI but also the larger societal and ethical implications of these technologies.

Background

Over the past 50 years, artificial intelligence has advanced significantly due to improvements in deep learning, increased computing power, and the availability of large datasets. However, it is only in the past 15 years that AI has rapidly expanded into creative industries, including music. According to Market.US, the global AI in Music Market size is expected to be worth around 38.7 billion USD by 2033, and has a compound annual growth rate (CAGR) of 25.8% from 2024 to 2033. This rapid growth reflects the increasing application of AI-driven music technologies from composition and production to sound design and mastering.

One notable example of AI's integration into music is OpenAI's Jukebox, a neural network capable of generating music across a variety of genres and artist styles. Jukebox was trained using a dataset of 1.2 million songs with corresponding metadata information such as the artist, album genre, the year of the songs, and common moods or playlist keywords associated with each song. This extensive training allows Jukebox to produce complex compositions that have vocals and/or instrumentals that replicate popular musical styles from the past and of today. The model is also able to generate music from raw audio recordings. This additional feature distinguishes Jukebox from predecessors and enables the model to capture the intricacies of human voices and the differences in timbre, dynamics, and expressivity that are essential to music composition and production.

The impact of AI extends beyond creation to how we discover and consume music. Streaming platforms like Spotify and Apple Music have adopted AI algorithms to compile personalized playlists and recommend new music to listeners. These recommendations have

become so precise that around 74% of internet users have already used AI in some form to discover or share music (Market.US). Additionally, the line between human and AI-created music is becoming less defined. The same study on Market.US found that 82% of listeners struggle with distinguishing between AI and human compositions. This poses questions about the value of human creativity and musical authenticity in an industry where AI-generated content is blending in with traditionally composed music.

With the rise in AI, the human workforce required to produce a composition decreases. Traditionally, music production involves a team of skilled professionals, including composers, producers, audio engineers, and musicians. These professionals spend years refining their skills and building their careers, but with AI capable of generating entire compositions in seconds, companies may increasingly turn to these new technologies as a cost-effective alternative to hiring human professionals. In other creative industries like film, advertising, and video game production, background music is essential to marketing and entertainment, but AI-generated tracks could easily replace human composers, producers, and musicians altogether. A study by CISAC (2024) found that music and audiovisual creators could experience a 24% reduction in income by 2028 due to the proliferation of AI-generated music.

Lastly, AI-generated music presents significant legal and ethical challenges due to the lack of transparency in training datasets and the unauthorized use of copyrighted works. This is a recurring issue in many generative AI content that has been produced, and raises concerns about copyright infringement and the loss of creative ownership. Very few legislation policies and regulations have been passed, and without stronger protections and clear legal frameworks, human composers, producers, and musicians will continue to face challenges in maintaining their creative rights and economic stability in an ever changing music industry.

Methodology

This research paper examines the impact of artificial intelligence on the music industry through the lens of the Social Construction of Technology (SCOT) framework, which emphasizes how technologies are shaped by different social groups. By analyzing a combination of academic literature, industry reports, and musicians' perspectives from surveys, this methodology provides a comprehensive understanding of AI's influence on music creation, production, and composition, as well as its broader implications for musicianship and career opportunities.

To gather relevant data, I conducted literature reviews using Google Scholar, searching for articles and research publications that discuss AI's role in music composition, production, and distribution. The key search terms used included "AI" and "music", which helped to narrow down a wide range of sources covering different aspects of AI integration in the industry. Articles containing statistical analyses and interviews with discussions on AI-generated music were prioritized, as they provided empirical evidence to support the paper's argument. These sources also revealed how different relevant social groups, such as musicians and producers, construct competing meanings around AI, illustrating SCOT's concept of interpretive flexibility. All findings that explored AI's effect on human composers, musicians, and producers were noted and documented for further analysis as well.

In addition to academic sources on Google Scholar, I conducted a general Google search to find industry reports, academic papers, surveys, and interviews that reflect how AI is perceived by those working in the music industry. This search focused on reports from music technology companies, news articles, independent research studies, and even online forums that highlight AI's growing role in music production and the concerns raised by individuals. I

employed discourse and qualitative analysis within these sources to identify key themes in discussions surrounding AI and music, as well as valuable insights into the qualitative impact of AI on the creative process, artistic identity, and career sustainability. By incorporating both types of sources into my research, there is a balance of theoretical discussions of AI's potential growth with valid concerns shared by professionals in the field. This approach allows for a complete understanding of AI's role in music, including its benefits, risks, and ethical implications.

Finally, after conducting all the necessary research, I organized all the information collected from these sources into key themes, including AI's influence on music creation, the economic impact on musicians, and the regulatory discussions on AI-generated music. I applied discourse analysis to industry narratives about AI's role in music, while qualitative analysis was used to assess musicians' perspectives on AI-generated compositions. By applying the SCOT framework, I was able to better identify patterns and arguments that reinforce the paper's central question of AI's impact on various social groups within the music industry.

Findings and Analysis

The integration of artificial intelligence into the music industry has fundamentally changed how music is created, produced, and consumed. There are not only changes to the creative process, but also continuing concerns about artistic authenticity, economic impacts, and the lack of regulation surrounding AI-generated music. Artistic authenticity is what makes music "music". I define artistic authenticity as the originality, emotional depth, and personal expression that is intertwined with every work that is performed. In music, authenticity is often tied to the performer or composer's unique style, lived experiences, and intentional artistic choice that shape their performance or composition. With this definition, it can be assumed that only humans are capable of evoking this type of emotional response that guarantees an expressive connection

with audiences. However, the rise of AI is challenging this known belief. As stated before, 82% of listeners have trouble distinguishing between AI and human-composed works. This raises the question of when future AI works will become increasingly more similar to human-composed pieces. One user on Reddit stated that “AI will eventually (in the foreseeable future) be able to generate music that is indistinguishable from human-made music”, but opposing opinions state that AI would never be able to reach the level of complexity as human-composed pieces. These types of discussion further go to show that the consumption of music highly depends on the artistic authenticity of the composition and performance.

The definition of musicianship is also shifting as AI becomes more integrated into the creative process, and the skills and qualities that a traditional musician should have are deviating from the norm. Historically, musicianship has been associated with instrumental proficiency, compositional ability, and expressiveness, but in the AI era, the definition has expanded to include technological literacy and the openness of AI tools as well. This shift is supported by a study by CISAC (2024) that shows that about 60% of musicians are now using AI for tasks such as mastering and composing. The changing landscape of music reflects the type of new music being created with AI assistance, and it is altering not only the musical genres but also the professionals who make their careers within the music industry. These transformations challenge musicians, composers, and producers to find new ways to share their creative voices while leveraging AI capabilities within the rapidly evolving industry.

AI-generated music also poses serious economic challenges for the music industry. The traditional career paths of composers, producers, and musicians are continuously evolving depending on the changing financial landscape of how prevalent AI music becomes. As technology improves, AI will only become more advanced in generating high-quality

compositions, mixing and mastering tracks, and even mimicking the styles and genres of real artists. These issues raise concerns about job displacement, reduced earnings, and the devaluation of human creativity.

One of the most immediate economic consequences of AI-generated music is job displacement, which can be analyzed through the lens of the Actor-Network Theory (ANT). ANT examines how human and non-human actors such as composers, producers, AI tools interact to reshape the music industry. As stated before, music compositions and production often involve a team of composers, producers, musicians, and other skilled professionals to create an album or song. However, approximately 25% of music producers are currently using AI in their work, as revealed by a Tracklib music producer survey in 2024. Of the 25% of participants surveyed, 45.5% use it for mastering and EQ plugins, and 73.9% use it primarily for stem separation. In this instance, AI tools act as non-human actors that destabilize traditional networks by displacing the roles of session musicians and creating a dependency on mastering tools.

Despite these numbers, a significant majority of producers who avoid AI have concerns about maintaining creative control and ensuring their art remains entirely their own. ANT frames this resistance as a conflict over “actor agency”, which is the idea that human actors argue between the authority of non-human actors to define what counts as authentic creativity. This tension between artists and technological innovations still exists, and they may be difficult to resolve. Additionally, the Tracklib survey found that there is more opposition for fully generative AI tools that can create entire songs than assistive AI technology, which is designed to help music producers with tasks rather than replacing their creativity. This fact makes sense because artists would still like to maintain their artistic taste and produce music that has their unique flavor and profile. The survey also cited the future impact of AI, with around 70% of participants

expecting AI to have a “large” or “massive” impact on music production in the near future. Such future predictions highlight ANT’s focus on instability within the music industry.

From the data found, it is clear that AI is not yet widely adopted, with lots of differing opinions on the use cases and assistance for tasks like mastering, producing, and composing. Many artists view AI positively as a collaborative partner rather than a replacement for human creativity. This aligns with many companies that have begun integrating AI components into music production software, such as LANDR, which began as an automated mastering service using AI. For example, assistive AI technology can be and is often used to improve processes like mixing and mastering music. On the other hand, AI is still being held back by those concerned about its potential to diminish the artistic and emotional depths of music. There was no exact number on the percentage of participants who were against AI, but it can still be assumed that the numbers are not insignificant. Overall, the data suggests that AI is beginning to reshape the traditional timeline of music production. The music industry has always been a field full of change and new ideas, and the implementation of AI tools is pushing for a slow but drastic change.

Apart from professionals being directly affected by AI, the music industry itself also faces significant impacts. According to Research and Markets (2025), the predicted market size of generative AI outputs is expected to grow at a CAGR of 59.25% from $419.85 million in 2024 to $4.3 billion in 2029. Following 2029, the growth is projected to continue to increase at a CAGR of 39.32% and reach $22.57 billion in 2034. Despite this financial boom, this growth is mainly benefiting streaming platforms, AI startups, and record labels rather than the artists themselves. According to a CISAC (2024) study measuring the economic impact of AI in the music sector, professionals will experience a 24% loss of revenue by 2028 due to AI-generated

music replacing traditionally composed works. With AI models being trained on copyrighted music without proper compensation to the original creators, many musicians and composers are witnessing their work being repurposed into AI outputs. These earning losses are extremely damaging for independent artists and musicians, who rely heavily on commission-based work.

The advancements of AI-generated music present a paradox for the music industry as it fosters innovation and financial growth, but also raises concerns for composers, producers, and musicians. Beyond economic challenges, the lack of regulation surrounding AI-generated music directly impacts human artists like composers, producers, and musicians. For many AI models, there is a lack of transparency in the datasets that were used in the training process, and also concerns over the use of copyrighted works to train AI models themselves. Using copyrighted work to train AI models could cause legal problems, but due to the unfamiliarity with how datasets are formed, it is difficult to monitor and regulate. As AI-generated music is directly trained off their works, the professionals are vulnerable to copyright infringement, loss of creative ownership, and unfair competition. Without any clear legal protections, AI models can be freely trained on existing works without any proper compensation to the original creators. As AI models continue to advance in complexity, the absence of regulatory frameworks can further threaten the careers of composers, producers, and musicians, which in turn forces them to compete in an unfair industry.

As mentioned previously, AI models are often trained on vast datasets that include copyrighted works without the consent or compensation of the original composers and artists. According to Stewart Townsend on LinkedIn, companies like Suno and Udio have encountered lawsuits from major labels such as UMG Recordings, Inc., Warner Music, and Sony Music for using copyrighted material in their training models without the proper permissions. Since these

companies focus on AI music that mimics existing styles and genres, the work of real human artists can be potentially replaced in the commercial music industry. The most well-known instance of a mimicked track is the song “BBL Drizzy,” which was created by Udio. The track went viral for its uncanny resemblance to the voice and style of Drake, yet it utilized none of his vocals or melodies. The success of an AI-generated work further demonstrates how the ability to generate songs that replicate an established musician’s work could be a direct threat to their career and further supports the need for regulations on intellectual property rights.

The most recent legislative effort is the Generative AI Copyright Disclosure Act, which was introduced in 2024. This act requires AI companies to disclose the copyrighted works used in their training datasets for the models and also proposes the creation of a public database to ensure transparency. This way, creators can view how their works are being utilized. Failure to comply with these regulations has a penalty of starting as low as $5,000. However, this fine can easily be paid by large corporations, which often spend millions of dollars to train models on millions of copyrighted songs, lyrics, and recordings without compensation to artists. A lack of firm legislation contributes to the risks of unfair competition within the music industry, and future work is required to address the challenges posed by AI-generated music.

Ultimately, the findings of this research highlight the impact of AI-generated music on human composers, producers, and musicians. While AI undeniably offers new tools for creativity and innovation, it also challenges the traditional ideals of artistic authenticity and musicianship, economic and career opportunities, and legal frameworks. As a composer, producer, or musician, it is important to adapt and integrate AI into their careers by leveraging its strengths while preserving the unique qualities of human creativity and performances that audiences will always value.

Conclusion

The integration of artificial intelligence into the music industry has brought both opportunities and challenges that have now changed the way music is composed, produced, and consumed. This research paper aimed to explore the impacts of AI-generated music in commercial production and how it has affected human composers, producers, and musicians. Findings reveal concerns about artistic authenticity, economic sustainability, and legal regulation. Despite the innovative possibilities for efficiency and accessibility in music production, they also threaten traditional career paths in the music industry.

A central issue is the harm AI poses to artistic authenticity and musicianship. As AI models become technologically more advanced, they will become increasingly better at replicating human compositions, which causes the line between AI and human creations to blur. This change raises questions about the emotional depth that defines artistry, with people arguing that AI-generated music lacks the expressive nuances of human performances. Additionally, as AI-generated compositions improve, the definition of musicianship is changing to include technological literacy and traditional music skills.

Economically, AI-generated music is redefining the industry, with reports estimating projections of significant financial growth for AI music technology and reductions in revenue for human musicians. As more companies turn to AI for composition, mixing, and mastering, composers and producers have fewer career opportunities and fear financial instability due to job displacement. Legal and ethical concerns are also rampant within the music industry due to the influence of generative AI. The unauthorized use of copyrighted works for training AI models has led to lawsuits and pushes for regulation within AI companies for greater transparency in dataset usage. The recently proposed Generative AI Copyright Disclosure Act is a first step

towards legislation, but enforcement continues to be a challenge. The absence of stronger protections places artists at a risk of losing ownership of their creative outputs, and they face greater competition from AI-generated music in commercial markets.

Ultimately, AI is transforming the music industry in monumental ways that require consideration for the future of human creativity, economic state, and legal protections. While I am excited for the development of AI in the music industry, I do agree that there are many unchecked adoption risks that will only increase if there is no policy in place. If this continues, I would prefer for traditional music careers to remain in place – with composers, producers, and musicians each utilizing their hard learned skills to create and perform music. I still believe that artistic authenticity trumps all other aspects of music, since the soul and creativity is what makes music so meaningful and impactful. As AI continues to improve, it must be able to overcome this hurdle, and human musicians, composers, and producers must combat these challenges by balancing these technological advances with the preservation of artistry and musicianship. Moving forward, ethical guidelines must be established to ensure that AI technologies serve as a tool for enhancement rather than a replacement for artistry.

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