

# Paradigm shift in the music industry: Adaptation of blockchain technology and its transformative effects

Betül Yarar Koçer 

Assist. Prof. Dr., Mersin University, State Conservatory, Department of Music, Türkiye, e-mail: [betulyarar@mersin.edu.tr](mailto:betulyarar@mersin.edu.tr)

## Abstract

The music industry is undergoing a profound transformation thanks to blockchain technology. This article extensively examines how the core components of music—production, distribution, performance, and presentation—are undergoing radical changes through the integration of blockchain technology. The traditional music industry faces significant challenges, particularly in vital areas like copyright management, music distribution, and artist compensation. These challenges have become even more complex with the digitization of music and the rise of online platforms. However, blockchain technology, with its decentralized and transparent structure, has the potential to overcome these obstacles. This technology takes important steps in addressing disputes related to copyright by enhancing the traceability and verifiability of music works throughout their lifecycle, thereby contributing to fairer compensation for artists. Moreover, this article also delves into other intersecting domains related to the music industry, focusing on safeguarding intellectual property in music and presenting innovative solutions to the intricate music economy. Relevant data gathered through qualitative research methods is systematically presented to comprehensively explore the potential role of blockchain technology in the music industry's future. This exploratory analysis also investigates blockchain-supported platforms, providing an in-depth examination of their current development status and business models. The article places special emphasis on fundamental concepts such as copyright, ownership of artistic works, cultural heritage, and the role of blockchain technology in shaping the music industry, artists, and the ongoing digital transformation. In this rapidly evolving dynamic process, the transformative role of blockchain technology in the music industry and its potential must be continuously monitored, serving as a foundation for future-oriented initiatives. This comprehensive approach reflects the concerted effort to understand the effects of blockchain technology, which is shaping the trajectory of the music industry's future, from a broader perspective.

**Keywords:** Blockchain, Music Industry, Digital Music Distribution, Licensing, Copyright

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**Corresponding Author/ Sorumlu Yazar:**  
Betül Yarar Koçer  
E-mail: [betulyarar@mersin.edu.tr](mailto:betulyarar@mersin.edu.tr)



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## 1. INTRODUCTION

The advancement of technology has brought about a radical transformation in the distribution and recording methods of music. Recorded sounds have enabled musical compositions to reach wider audiences, expanding the boundaries of cultural sharing. However, this transformation has also given rise to concepts such as copyright and intellectual property. Traditionally, ownership of music compositions, copyright regulations, and protection methods have been shaped by legal frameworks aimed at controlling the usage of musicians' and artists' works.

Technological progress, especially since the mid-20th century, has significantly widened the scope of cultural sharing through the use of recorded sounds, making music accessible to broader audiences. Music, previously limited to live performances, has become easily accessible in recorded formats. Cassettes, records and then digital formats made it easy for everyone to listen to music in the venue of their choice. Yet, this technological shift has also brought forth issues related to copyright and intellectual property. The rise of digital formats has increased the copyability and shareability of music compositions, leading to unauthorized use, duplication, and distribution of artists' works. Copyright and intellectual property laws have been developed to protect the control and income of musicians by adapting to the changing dynamics of the music industry and aiming to safeguard artists' creative efforts.

While the music industry is rapidly adapting to the effects of digital transformation, the traditional processes of music distribution and copyright management remain complex and contentious. Lack of trust can arise in areas such as revenue sharing and copyright tracking among artists, producers, songwriters, and other stakeholders. The challenge of generating reasonable income from music production has become increasingly difficult, driven by the surge in inter-stakeholder content sharing and the distribution of intellectual property rights. Currently, the involvement of numerous intermediaries in the distribution stage has led

to a chaotic process, contributing to a significant reduction in artists' income due to low sales and inadequate royalty payments.

"New technologies can radically simplify methods of identifying and compensating music rights owners, enabling sustainable business models for artists, entrepreneurs, and music enterprises." (Panay, 2016). In this context, blockchain technology emerges as a potential solution. Mougayar (2016) asserts that blockchain technology is as crucial as the World Wide Web.

The potential impacts of blockchain technology on the music industry encompass a wide range. In the transformation of music, it is observed that blockchain technology could play a significant role in music production, distribution, and consumption. Particularly, by reducing the number of intermediaries and enabling instant payments, it can address complex payment issues within the music industry. Additionally, blockchain technology has the capacity to enhance copyright management and traceability of music compositions by providing a decentralized structure. It can assist artists in gaining more control and transparency by enabling digital ownership, tracking, and sharing of music compositions.

The historical and cultural evolution of music, combined with technological advancements and new business models, is shaping the future of the music industry. The impact of this technology on the future of the music industry is of great importance in terms of preserving cultural heritage and valuing artists' efforts.

This article aims to delve deeper into understanding the potential impact of blockchain technology in the field of music and to discuss the transformation in the industry. To achieve this goal, after examining the current state and dynamics of the music industry, a comparative analysis of global blockchain music companies will be conducted. The analysis results will provide a discussion on the potential contribution of blockchain technology to the music industry and its possible effects.

## 2. METHOD

This article employs a qualitative research method to examine the potential and transformative effects of blockchain technology on the music industry. Specifically, the focus has been on how blockchain can impact the music industry and how new business models can be defined through technology. "Qualitative research can be defined as a series of interpretive techniques that attempt to explain, analyze, and translate concepts and phenomena rather than record their frequency in society" (Van Maanen, 1983). For this purpose, a qualitative approach has been adopted since it deals with "how" questions.

The research initiated with a comprehensive literature review. The literature review laid the foundation for data collection and analysis by providing guiding frameworks for the research (Vom Brocke et al., 2015). Relevant sources were selected from platforms such as Scopus and Google Scholar, and an overview was obtained by skimming through identified texts. Online materials like social media content, blockchain platforms, and industry reports were also utilized to gain a comprehensive understanding. Additionally, the snowball sampling method was employed as an efficient way to find relevant literature in terms of time.

In the initial phase, the supply chain processes and relationships of the traditional music industry were examined in detail through an exploratory analysis. This analytical approach was utilized to comprehend how the chain operates and to identify challenges within these processes. The same analytical method was applied in the exploration of new music platforms supported by blockchain technology. Prominent blockchain-based platforms like Resonate, Opus, Musicoin, and Audius were investigated at this point. The functionality, purpose of use, adopted practices, and how they are used were systematically explored using a comprehensive content analysis method. Content analysis proved to be a critical tool in shedding light on the unique features and usage patterns of each platform. Through this analytical approach, the advantages, challenges, functionality, and purpose of use of each platform were discussed

in detail.

In this context, this study comprehensively addresses the impact of blockchain technology on the digital transformation of the music industry. Comparing the traditional music industry's supply chain model with the potential offered by blockchain technology provides valuable perspectives for the industry's future evolution. This analytical framework aims to contribute to a broader understanding of the transformation of the music industry within a larger context.

## 3. DEVELOPMENT OF DIGITAL MUSIC AND CHALLENGES IN THE EVOLUTION OF THE INTERNET

The evolution of the internet has revolutionized the music industry and brought significant changes to how music is created, distributed, and consumed. Digital music, defined in its fundamental sense, is a visual-auditory medium stored in digital format that can be transmitted over the internet and wireless networks. When compared to traditional music, digital music is not only low-cost, highly efficient, and personalized, but also caters to the consumption needs of consumers in the era of new technologies.

The internet has completely transformed music distribution today by enabling easier and faster access to music. Instead of traditional physical formats like vinyl, cassette, or CDs, the internet allows music to be downloaded digitally or streamed online through streaming services, making music more accessible. Digital technologies and the internet have democratized the process of music creation and recording. Digital audio workstations (DAWs) and various software tools allow musicians to create professional-quality music from their homes. Additionally, online collaboration platforms facilitate musicians' collaboration from around the world. Moreover, new avenues have been provided for artists and record labels to promote and market their music. Through social media, music videos, online radio, podcasts, music platforms like Spotify and Apple Music, and other digital platforms, artists can reach a global audience. Music listeners can now interact with their favorite artists through social media and

listen to artists live through online concerts and live streams.

However, this transition has come with various challenges and impacts. The launch of the iTunes Music Store by Apple in April 2003 is considered a significant milestone in the digital music transformation. This platform reduced the cost of downloading a single song to \$0.99 and an album to \$9.99 through iTunes 4.0, providing a 33% discount compared to traditional CD formats (Dutra et al., 2018). This move encouraged the consumption of digital music and marked a significant transformation in the music industry. The price reduction made music more accessible on digital platforms and influenced music consumers' habits.

Digital music and the internet have created new challenges and opportunities in terms of copyright and licensing. Artists and rights holders are required to change how they manage their music's online use and revenue generation. This transformation has brought both new opportunities and challenges.

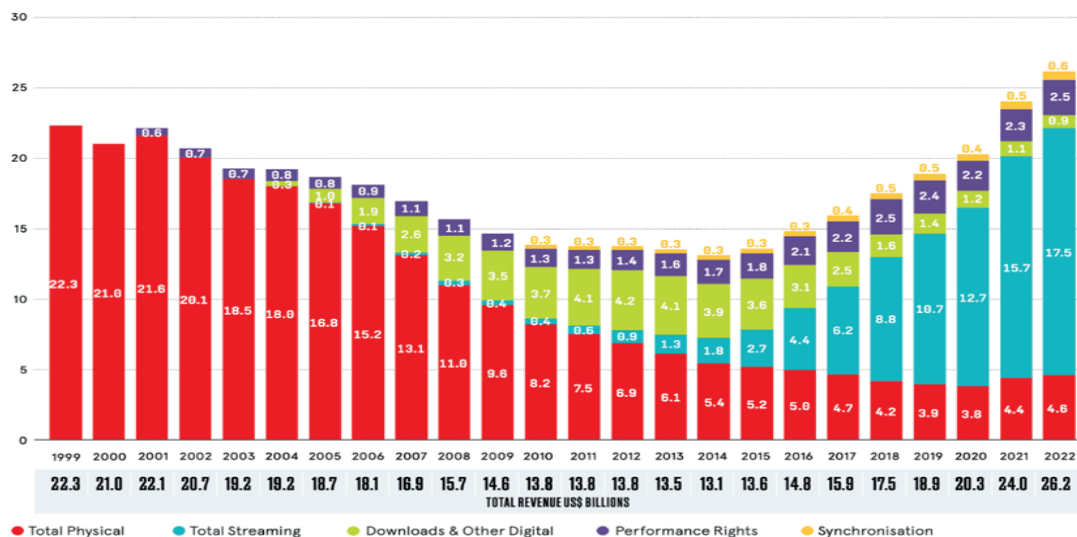
Digital music and the internet have created new challenges and opportunities in the realms of copyright and licensing, necessitating a change in how artists and rights holders manage the use of their music online and how they earn income from it. This process of transformation has brought forth numerous new prospects

alongside its challenges. For instance, issues like piracy and copyright infringements have emerged as significant problems affecting both the music industry and artists.

In recent years, the rise in popularity of music streaming services has somewhat mitigated piracy, as these services often offer users access to a vast music library at a low cost or for free. Nevertheless, piracy continues to pose a significant challenge for the music industry. To address these and other issues, the music industry and technology developers continually explore new solutions and models.

Furthermore, many artists contend that the revenue derived from music streaming platforms is unfair. Notably, musicians, including influential figures like David Bowie, have been at the forefront of advocating for and actively engaging in discussions on this transformation (For more detailed information, refer to Pareles, 2002). However, during the complex transitional period spanning from 2000 to 2015, public discourse paid limited attention to how musicians would generate income in this emerging digital age, the funding sources available to them, and the means by which they could sustain their music careers. Discussions during this period primarily revolved around speculations regarding new opportunities and changes, with relatively little focus on the income-generation

**Table 1.** Global Recorded Music Industry Revenues 1999 - 2022 (Billion US Dollars) (ifpi.org)



challenges faced by musicians (Hesmondhalgh, 2021, p. 3594).

The global music industry continues to grow in recent years. According to the International Federation of the Phonographic Industry (IFPI), which measures the music industry's growth, it reported a total revenue of \$26.2 billion in 2022 based on data from record companies. IFPI notes that while revenue from physical formats (such as vinyl and CD revenue) has decreased over the past decade, digital revenue has increased. Furthermore, there is an observed increase in online streaming, while download rates are declining.

The revenue from digitally sold music has been unequally distributed among stakeholders in the music industry. In broad terms, the revenue from music streams is divided as follows: 30% to on-demand streaming services, 60% to record companies and publishers, and 10% to songwriters, artists, and music groups. According to analyses, Apple Music has paid unsigned artists \$0.0064 and signed artists \$0.0073, while Spotify has paid \$0.007 and \$0.0044 respectively. In 2017, in the United States, for an artist to earn the minimum wage of \$1,472, their songs would need to be streamed around 230,000 times on Apple and 380,000 times on Spotify. For YouTube, considering an artist receives only \$0.003 per stream, their content would need to be streamed around 4.2 million times (Sanchez, 2017). Ensuring fair and equitable distribution of revenues among rights holders, particularly among stakeholders, is critical for the sustainability of the industry and to support artists. At this point, collaboration among all stakeholders in the industry is necessary to explore appropriate solutions.

#### 4. BLOCKCHAIN TECHNOLOGY

"Blockchain is a shared, trusted, public ledger that everyone can inspect, but which no single user controls. It operates by consensus, and once recorded, the data in any given block cannot be altered retroactively." (BlockchainHub, 2023). Since its introduction through the Bitcoin whitepaper published by an anonymous individual or group using the pseudonym

Satoshi Nakamoto in 2008, blockchain technology has come a long way (Nakamoto, 2008). A blockchain consists of a virtual chain of blocks, each with a unique identifier (referred to as a hash) and containing information such as financial transactions, contracts, or other documents. A blockchain operates on a decentralized network of computers (referred to as nodes) collectively verifying the information entering a block. Reaching a consensus on what information should be included in a block is necessary to minimize the chances of accepting incorrect information, as nodes mostly reject a block without the need for a central entity (Peters and Panayi, 2016). The database is distributed based on the principle that each copy of new data is sent to not just one computer but to all users in the chain or system. To change any bit of the database, hackers would need to change the copies of inputs in the system by 51%, and each copy would need to include all previous interactions with that data (Nguyen & Dang, 2018, pp. 483-484).

In essence, no singular entity owns a blockchain, making it immutable and devoid of a single point of vulnerability for those attempting to hack or otherwise tamper with the data in the blockchain ledger. For this reason, blockchain is the first technology to enable the transfer of digital ownership in a decentralized and trustless manner (Inuma, 2018). Creating a blockchain transaction involves the following steps: defining the transaction and providing access to the sender network, including the recipient's address, transaction value, and digital signature. Nodes verify the user's digital signature through encryption. The verified transaction is added to a pool. Pending transactions are combined into a block, creating an updated record maintained by a node. The block is accepted by the network's verification nodes and added to the blockchain. This process is typically completed within 2 to 10 seconds (Gheorghe et al., 2017, p. 218).

Blockchain provides high security and flexibility through high interaction, successfully eliminating third parties and rendering processes more transparent, democratic, decentralized, cost-effective, and secure. This technology has various applications, including smart contracts, supply

chain traceability, digital identity verification, and many more. Blockchain technology offers transformation potential across numerous industries through these and other applications.

Due to its decentralized and transparent nature, blockchain can offer a reliable framework for copyright management. Through smart contracts, automatic and transparent revenue sharing can occur between copyright holders and licensees. Additionally, copyright tracking and monitoring processes can be automated, reducing copyright infringements and disputes. In the field of music distribution, blockchain technology can enable artists to directly reach listeners and eliminate the costs of traditional intermediaries. This could create a fairer and more sustainable revenue model, particularly for independent artists.

## 5. USAGE AND PRACTICE OF BLOCKCHAIN IN MUSIC

In the digital age, music is considered data, and metadata is the data about that data, containing information about the music itself. Metadata embedded in each recorded music track can include usage conditions and contact details of copyright holders, making it easier to locate owners of a recorded music piece and acquire licenses. The concept is to attribute a purpose to music, allowing it to act as if it were alive. Gradually placing copyright data onto the blockchain could eventually lead to the creation of a comprehensive copyright database for music (LO'Dair, 2016).

In the contemporary music landscape, the fusion of blockchain technology, smart contracts, and cryptocurrency is forming the foundation of a new music ecosystem that reflects inclusivity, integrity, transparency, and fair compensation ethics. Producers and consumers of digital music content are deciding how to share their content in the online world. On these new-generation platforms, artists can easily upload their music and associated content to a centralized online location, making it accessible to everyone. Rights, ownership, and usage of the content shift the focus from traditional music company or distributor policies to a technically artist-

centric model built on blockchain architecture. This model enables artists to offer their work for listening, sharing, remixing, or purchase directly to audiences. (Tapscott & Tapscott, 2016, pp. 287-290).

The music industry ecosystem is a centralized database network. These databases connect rights and licensing flows while providing a revenue stream. The DotBlockchain architecture is designed for Blockchain technology, aiming to develop the future music ecosystem by utilizing a balanced ring architecture. This architecture encompasses all participants from traditional labels and publishers to performing rights organizations and composition editors. Collaborating partners can store their data in a metadata chain by combining their individual databases. This chain resides within a public data block. The DotBlockchain architecture works compatibly with existing media formats, maintaining data safety and accuracy (Gheorge, 2017, pp. 2022-2024).

However, integrating blockchain technology into the music industry could face challenges such as standardizing copyright management and licensing processes and creating a legal framework. Additionally, collaboration and data sharing among all stakeholders need to be encouraged.

The various roles and applications of blockchain technology in the music industry include:

**Copyrights and Licensing:** Blockchain can be used to verify and track ownership of a song or album. This facilitates the verification of copyright and licensing information for each track, leading to more accurate revenue distribution.

**Music Distribution:** Artists and groups can distribute music directly to consumers using blockchain technology. This bypasses traditional distribution channels, giving them more control and potential revenue.

**Micro Payments:** Blockchain facilitates artists receiving micro payments for their tracks. This allows listeners to directly purchase specific songs or albums.

**NFTs (Non-Fungible Tokens):** Artists can use NFTs to create unique digital products. This provides fans with the opportunity to own unique pieces and offers artists new revenue streams.

**Interaction with Fans:** Some artists use blockchain technology to engage more with their fans. They can provide exclusive access and experiences using tokenized rewards.

Nevertheless, the full impact of blockchain technology on the music industry is still unfolding and evolving. However, this technology has significant potential to fundamentally change how musicians create, distribute, and earn from their music.

## 6. INNOVATIVE BLOCKCHAIN-BASED PLATFORMS IN MUSIC DISTRIBUTION AND A LOOK INTO THE FUTURE

The music industry is undergoing profound changes due to the impact of digital transformation. Challenges such as traditional distribution models, copyright issues, and the lack of fair compensation for artists necessitate new and innovative solutions for music to adapt to the digital age. At this juncture, blockchain technology comes into play, enabling data to be stored transparently, securely, and in a decentralized manner. However, the widespread adoption and acceptance of these platforms by the general public can give rise to significant challenges, considering factors such as technological capabilities, user behavior, and industry standards. Blockchain-based music platforms are offering a new perspective to the music industry, reshaping the interaction between artists and listeners. However, how these platforms will be embraced as alternatives to traditional music distribution models and how they will impact the music industry will be better understood through future studies and adoption processes.

Since its early days, blockchain technology has garnered significant interest across various industries. Platforms like Bittunes, Ujo Music, Voise, Musicoin, and Resonate are standout

examples of blockchain-based streaming platforms that have emerged in recent years. These platforms promise to employ smart contracts to reward artists and pledge fair compensation. They also provide the capability for users to directly tip artists. However, the acquisition of the necessary cryptocurrency (such as Bitcoin, Ethereum, or Musicoin) for these platforms might not be as user-friendly as the payment processes of traditional music platforms, potentially slowing down the adoption process (Sciaky, 2019).

Some of the innovative platforms in the music industry are as follows:

**Audius<sup>1</sup>:** Built on the Ethereum blockchain, Audius allows artists to independently release their music and interact directly with listeners. This enables artists to overcome the limitations of traditional music distribution channels and reach broader audiences, effectively marketing their music (Audius, 2023). Audius boasts several important features that set it apart from other blockchain-based music platforms. These features enable the platform to provide a more effective and appealing experience for users. The user-friendly interface facilitates the rapid adoption of Audius. Both artists and listeners find navigation and content uploading on the platform hassle-free, ensuring a more comfortable and enjoyable user experience. Audius' ability to provide wider access is also a noteworthy feature. When artists upload their music to the platform, they can reach listeners from different cultures and geographies, allowing their music to reach broader audiences. Audius' innovative business models distinguish it from other platforms. Artists can choose to make their music available for free listening or license it for a certain fee. Additionally, adjusting usage rights for works based on different regions or platforms is also possible. These features differentiate Audius from other blockchain-based music platforms. The platform presents an innovative approach aimed at providing a more sustainable, fair, and enriching music experience for both artists and listeners.

**Musicoin<sup>2</sup>:** Operating on micro-payments between artists and listeners, Musicoin offers a

fair payment model. As listeners enjoy music, they can make payments to artists using cryptocurrency. Artists, in turn, are rewarded with the Musicoin cryptocurrency as they share their content. This approach enables artists to better determine the value of their music and manage their copyrights more directly. Artists can establish closer connections with their listeners, receive feedback, and even offer exclusive content or experiences for a certain amount of Musicoin. This not only allows for listening to music but also enriches the experience by forming a more personal connection with artists. Being free and ad-free, this platform utilizes the Universal Basic Income (UBI) model, ensuring that each contribution is fairly rewarded (Musicoin, 2023).

**Resonate3:** It presents an alternative approach to subscription-based models like Spotify and Apple Music. It offers music to listeners at affordable prices while committing to providing artists with higher payments compared to their competitors. Operating on a blockchain-based democratic governance system, it ensures that artists receive their earnings through a per-listener payment model, while listeners gain access to music through a fair subscription model. One of Resonate's most striking features is the "Stream2Own" model. In this model, users make micro-payments for each streaming session, and the amount they pay is instantly transferred to the artist's wallet. This enables artists to earn instant income from every play, fostering a more equitable distribution of revenue compared to traditional music streaming platforms.

Additionally, the Resonate platform grants artists more control over how they license their music. Artists can determine the usage terms for their works, which are automatically enforced through smart contracts. This enhances the protection of copyright and empowers artists to manage their music. Another area where Resonate stands out is user experience. The platform allows users not only to listen to music but also to get closer insights into artists' stories and music creation processes. This approach transforms music into not just sound but also a story and experience, fostering a deeper connection. Resonate's unique features offer a fresh perspective on the digitalization of the

music industry, with functions like fair revenue sharing, licensing control, and enhanced music experience. Serving as a robust and effective bridge between artists and music consumers, this platform positions itself as a contender to shape the future of music by innovating in the realms of fair revenue distribution, licensing control, and music experience.

**Opus<sup>4</sup>:** It stands out as a blockchain-based platform built to store and distribute high-quality audio files. It specifically enables the storage of high-resolution audio files in the FLAC (Free Lossless Audio Codec) format. The FLAC format maintains audio quality while incorporating compression capabilities. This provides music artists and producers with the capacity to preserve their creations at the highest level. Opus's primary goal is to enhance audio quality within the music industry. Traditional digital music platforms often use compressed audio formats, which may lead to quality degradation. Opus, on the other hand, aims to deliver a superior listening experience by offering high-resolution audio through the FLAC format.

Opus is built on a blockchain technology that ensures fair revenue sharing. Artists receive direct payments as listeners engage with their music on the platform. Smart contracts facilitate revenue sharing based on predefined ratios. Furthermore, Opus enables accurate management of copyright. Artists can establish usage terms for their works, and smart contracts automatically enforce these conditions. The platform supports various licensing models. Artists can make their works available for free streaming or license them for a specified fee. Additionally, they can customize the usage rights based on geographical regions or platforms. With a global vision, Opus provides access to listeners and artists worldwide. When artists upload their works to the platform, listeners from different geographies and cultural backgrounds can access these creations. Opus's fundamental aim is to deliver a high-quality audio experience while ensuring fair revenue sharing and copyright management. With its innovative approach, Opus contributes to a more transparent and accessible future for the music industry.



These platforms in the music industry carry the potential to offer a more equitable and transparent experience to artists and listeners. They exemplify instances of the digital transformation within the music industry. While each platform shares a similar core purpose and functionality, their unique features and intended uses exhibit noticeable differences. Notably, Resonate's innovative distribution model, Opus's high-quality audio storage concept, Musicoin's copyright management, and Audius's decentralized music streaming platform all stand out for their distinctive attributes. The adoption process of these platforms and their impacts on the music industry will become clearer based on the outcomes of future research and studies.

## 7. DISADVANTAGES OF BLOCKCHAIN-BASED MUSIC PLATFORMS

While blockchain platforms offer several advantages, they also come with certain disadvantages. The requirement to transact with cryptocurrencies and the complexity of payment processes can be significant factors limiting user acceptance. Blockchain-based music platforms are often designed to facilitate payments with cryptocurrencies and manage copyright, which may demand users to possess cryptocurrencies or purchase them. Despite the prevalence of cryptocurrencies, many individuals may still have limited knowledge or desire to engage with them. This can lead to hesitation among music enthusiasts or artists to use such platforms.

The complexity of payment processes can also pose a barrier. Payments on blockchain-based platforms are typically conducted through smart contracts, which can be different and more technical compared to traditional payment methods. Users may need to understand and navigate these processes correctly. Additionally, factors such as the volatility of cryptocurrency values and the verification process of payment transactions can complicate the payment experience for users.

These disadvantages, especially for users who are less familiar with technology or have limited exposure to cryptocurrencies, can reduce their willingness to adopt the platforms. User

tendencies to prioritize security and simplicity can influence the adoption rate of these platforms. Therefore, platform providers might reach a broader audience by offering user-friendly interfaces, simplifying payment processes, and supporting traditional payment methods instead of cryptocurrencies. Taking these issues into account, the future success of blockchain-based music platforms will depend on how effectively they can make the user experience simple and secure.

Another disadvantage is scalability issues. Blockchain infrastructure might struggle to handle high-volume transactions, limiting the platforms' growth and reach to a wider user base. Scalability issues might become even more pronounced if the platform gains popularity. Energy consumption is another concern. Some blockchain protocols can require high energy consumption for transaction validation, raising environmental and sustainability concerns.

Transaction speed and duration could also pose a disadvantage. During peak periods or increased network traffic, transaction speeds could slow down, making it unsuitable for scenarios requiring instant payments or quick transactions. Data storage concerns should also be considered. Since blockchain records every transaction on a public ledger, safeguarding personal or sensitive data might be challenging. This becomes a risk, especially when situations demand the storage of confidential information.

Lastly, the legal and regulatory aspects of blockchain technology are still uncertain. Matters like the legal status and taxation of cryptocurrencies can vary from country to country. These uncertainties might affect the operational processes of platforms. These disadvantages stand out as factors that could limit the widespread acceptance and usage of blockchain-based music platforms. However, with developers' efforts to address these challenges and the evolution of technology, these disadvantages could be overcome over time, allowing platforms to reach a broader user base.

## 8. CONCLUSION

The “blockchain” technology has rapidly advanced and is widely used in various fields. Today, music works have transitioned from the recording era to digitalization. Digitized music works can be accessed widely via the “Internet,” but they also bring along contentious copyright issues. Effective strategies using blockchain technology in the future will make it possible to protect digital music copyrights on the internet, which will greatly enhance the development of the digital music industry. Blockchain has the potential to simplify many complex processes by offering benefits such as reduced transaction costs, payment speed, elimination of intermediaries, and sharing of copyright fees through smart contracts, compared to traditional methods. However, there are disadvantages associated with blockchain technology, including the lack of recognition among potential users, indifference towards music that can be accessed in this way, and the high volatility of cryptocurrency values. Thus, there is a prevalence of speculative and misinformation-laden discourse surrounding blockchain technology. In the music sector, technology benefits both in the online sale of concert tickets and in delivering live music performances to listeners, benefiting amateur musicians and small groups as well. The nature of open-source software offered by technology allows all these processes to be decentralized, enabling users and existing institutions in the music industry to set up their own web stores and reach listeners directly. Additionally, by creating synchronous streams that suit the nature of music, it provides brand new performance models and economic gain systems.

Blockchain technology can play a significant role in areas such as copyright management, music distribution, and artist compensation in the music industry. However, given the technical, legal, and collaboration challenges, the adoption process for this technology will be lengthy and require careful planning. In the future, it is expected that blockchain technology will bring more innovation and transformation to the music industry.

While blockchain platforms offer several

advantages, they also come with certain disadvantages. Blockchain-based music platforms face disadvantages such as the requirement to transact with cryptocurrencies and the complexity of payment processes. These factors can limit user acceptance and particularly deter users unfamiliar with cryptocurrencies. Additionally, challenges like scalability issues, high energy consumption, transaction speed, and data storage concerns can restrict the expansion and usage of these platforms. Although these issues can be overcome with solutions that enhance user experience, it's anticipated that as technology evolves and regulatory clarity is achieved, blockchain-based music platforms will become more widespread.

### Endnotes

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