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To what extent is the application of blockchain technology in creative industries like the film industry advantageous?

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Abstract

Blockchain technology has the potential to revolutionize many industries, including the creative sector. Creators in the creative industry often face challenges such as a lack of control over their work and difficulty in being fairly compensated for their creations. Blockchain technology offers a solution to these problems by providing a decentralized platform for creators to manage and monetize their work. This paper explores the extent to which the application of blockchain technology in the creative industry is advantageous. It covers the specific problems faced by creators and how blockchain can be used to address these issues covering features such as smart contracts. Additionally, the paper discusses the potential for blockchain to be implemented in the film industry as well as a means of improving efficiency and increasing transparency in the distribution and monetization of films. Overall, the findings suggest that the application of blockchain technology in the creative industry has the potential to benefit both creators and consumers and may provide a valuable tool for addressing some of the persistent challenges faced by those working in the sector.

Introduction

The creative industries are able to produce a wide variety of content in multiple languages for consumers through numerous sources. For instance, every year, more than thousands of movies, songs, and more are produced with the intention of entertaining, educating, or simply uniting. Despite this, these industries have struggled with production and centralization concerns in their aim to distribute content to their target audience. With regard to the film industry, while it originally distributed its content through television or movie establishments, the

emergence of the internet and OTT platforms significantly changed this tendency. The success of a movie is often dependent on its accessibility. With free pirated websites, this is becoming a more prevalent problem.

Issues such as leaking, and copyright are becoming increasingly prevailing in the creative industries and this calls for a solution; a solution that allows one to store data. Often referred to as the "internet of the future," blockchain technology is one of the most potent—if not the most potent—ways to store data that is practically impenetrable to hacking. Essentially, blockchain technology allows digital assets to be decentralized while also providing transparency into their origin. On the basis of this, the ability to harness the power of blockchain technology to overcome certain challenges in the creative industry has been proposed.

In line with the above, this research paper looks at the advantages of the application of blockchain technology to the creative industries with a specific focus on the film industry. The aim is, thus, to answer the research question **"To what extent is the application of blockchain technology in creative industries like the film industry advantageous?"**

The creative industry - the lingering problem for creators

Before analysing the usefulness of blockchain technology for the creative industry, it's essential to first understand the entire process and dynamic of the creative industry and the overarching problems that exist. In order to make this easier, this section will take the example of the music industry wherein the process starts with the production of a song through a producer and lyricist. The song then gets sent to record labels who deliver it to their choice of singer/producer. After the final product is created it is sold to retail in multiple formats such as CDs, digital downloads, etc.

The entire process mentioned above is complex and when played out includes several intermediaries at almost every stage. This has created quite a few challenges in the music industry, specifically for the creators. For example, there is an evident problem stemming from the lack of standardization (Turchet and Ngo, 2022). Every creator licenses and distributes their work through a variety of mediums such as digital streaming, CDs, records, and more; each medium uses a different method to report these sales elucidating the fact that each creator is unable to get their rightful royalties. Royalties are the money given to right-holders when their work is distributed, integrated into other media, or profited from (Wang, 2018).

Another problem is metadata; metadata refers to the song credits visible on platforms such as Spotify or Apple Music (Deahl, 2019). This entails information regarding the creation of the songs such as the producers, lyricists, performers, publishers and more. This information however is not synchronized across all platforms and mediums. This means when one plays a song the rightful creators are not always correctly identified. Due to the

absence of a standardized format for the metadata to be stored, information can be easily discarded during the publishing process. This is extremely risky and creates a bigger problem for creators and recording artists today.

Next, is the lack of trust. This stems from the fact that content/product usage data is solely known by the final provider (Spotify, Apple Music, Netflix, etc) (Turchet and Ngo, 2022). This lack of trust is also fueled by the lack of transparency from these companies which subsequently sparks debates on the creator's deserved final payout. In fact, a year-long study done by the Berklee College of Music's Institute for Creative Entrepreneurship reported that "anywhere from 20-50 percent of music payments don't make it to their rightful owners" (Hogan, 2019). This lack of transparency is also aggravated because to reach the final consumer, the work takes a journey through various companies/organizations. This "layer of middlemen" can once again impact the manner in which the revenue is distributed subsequently affecting the royalties and payment of artists. An example of the unjust payment system imposed on creators is Apple Music enforcing a rule denying artists royalties during their 3-month trial. This sparked debates regarding verification as well as unjust pay, which was then brought up by award-winning singer Taylor Swift.

Lastly, a prevalent problem is the wait to receive the required payment by the artist. It takes approximately 9-12 months for a songwriter to receive his/her royalties which is the leading factor for the need to divert their attention to other occupations to receive a payment. Without a fixed method and period, the payment/ royalties for creators will remain a topic of debate.

How blockchain technology can help the creative industry

So, how can blockchain technology be harnessed to eradicate this unwarranted compromisation? Blockchain technology also known as the "internet of the future" launched approximately more than 10 years ago after the rise of bitcoin created by an unknown person/s under the pseudonym Satoshi Nakamoto. Today blockchain technology has impacted a variety of industries such as finance, banking, education and more, but why was it created and how does it work?

Blockchain technology began as a "decentralized peer-to-peer electronic cash system allowing two parties to directly transact with each other" (Indian Blockchain Institute, 2020). Blockchain technology is fundamentally a network of computers that run the same software keeping the same database allowing each computer to validate information without the need for a middleman. The primary purpose of blockchain technology is to decentralize trade which allows more peer-to-peer transactions and also helps lower the use of intermediaries such as companies, banks or more (Hayes, 2022). Blockchain technology has a growing list of records which are continuously changing with each transaction being near to impossible to hack into. It is completely secured by cryptography allowing seamless transactions. This technology creates a block with every transaction saving it on

a central software which allows details of these transactions to be permanently inscribed on the block. These blocks hold transaction details such as the amount, sender/receiver and more; all these blocks are linked together which can also be known as a chain of records (Ravikiran, 2022). After authentication as well as verification by designated network participants which have a block created for every transaction between them; a ledger is formed. A ledger is also known as a series/chain of blocks which is accessible to everyone in the same way/format which creates a publicly distributed ledger. This elucidates the fact that each user will have a copy of this ledger while also having these blocks backed by complex algorithms, therefore, making it impossible to hack into.

Now how can blockchain be harnessed to overcome the intermediaries in the payment outlook of the creative industries? A study by McKinsey, particularly, provides a good overview of the main solutions that blockchain technology can present to the creative industry. These have been summarized below.

Firstly, transactions through blockchain technology are approved and verified. This creates a safer and more secure platform, *reducing the chances of fraud and facilitating a greater level of trust* between the various parties. The lack of transparency prevalent for multiple companies will be underplayed through the implementation of using blockchain as a catalyst to perform transactions between the final providers (Spotify, Apple Music, youtube etc) and the artists. (Takahashi, 2017) Furthermore, all the information is kept on a distributed rather than a centralized platform, this signifies that each participant, from the company executives to the producers, will have access to the same ledger records. Each party will hold a copy of this ledger as each ledger uses an independent computer (also referred to as nodes) which allows one to record, share and synchronize transactions (wvaibhava, 2022). For the creative industry, this suggests that through blockchain there will be a significant increase in transparency level between all parties involved making it easier for every contributor to track and get their desired amount (The World Bank, 2018).

Next, with the implementation of blockchain there comes *"smart contracts"*, smart contracts are essentially programs encrypted into blocks on a ledger once certain terms and conditions are met by all parties involved which allows for all settlements between said parties to be carried out effectively. Smart contracts work on two predominant words: "If, then". This means that if a certain condition is met (terms and conditions) then the subsequent actions will therefore be executed. Smart contracts allow for the eradication of the third-party user and direct contact between the parties involved. These smart contracts will allow artists to be able to create a platform which contains all the information for contributors to a specific project, this indicates that revenue can be fairly allocated to any such contributors and each update will be transparent (Mankar, 2022).

Furthermore, with blockchain being a decentralized network, users are able to verify other users; this will help with the creative industry for specific artists/producers or more to *build a reputation* which can be verified through the use of blockchain, this will also lead to more collaborations and more secure relationships. This also indicated

that each artist receives credit for their work; as the information is stored in distributed databases there is clarity in the single source of truth for payments and licenses (O'Dair, 2019).

Case study of the film industry and blockchain technology

Within the creative industries, blockchain technology can be an extremely effective and potent part of the Film industry. Features such as decentralization and clarity of origination could also work towards creating a better transparent transaction system for the film industry. The predominant problem for the film industry surrounds the lingering complication of piracy and copyright infringement. More than 80% of global online piracy can be accredited to illegal streaming services while this is costing the United States of America's economy up to $71 billion each year (Letić, 2019). This is where blockchain technology can be integrated to additionally help solve multiple transparency and piracy issues in the film industry.

The manner in which blockchain technology can help tackle the crucial issue of piracy in the film industry is by building ledgers on blockchain platforms that can help track and clearly establish which company or person the work is legally owned by (Tuck, 2022). This distributed ledger technology allows for tracking of any unlawful actions, therefore certain content can only be accessed through a ledger making it easier for companies to track copyright infringement. The first way blockchain technology can help eradicate piracy is through content surveillance, an example of this is Veuve a video platform that permits one to track the "life cycle of media content". According to Thomas Olson, founder of Veuve, "if someone copies content tracked by our technology by any possible means, including videoing or recording a screen, our platform will be able to identify the owner of the device/system where the content was last played." (Reiff, 2021). This is just one of the ways blockchain technology can be integrated to eliminate piracy, while this system doesn't directly prevent one to purloin content, companies and staff have direct data which lets them know who and where their content has reached. Furthermore, another way for blockchain technology to be applied is "Bounty Hunting", Bounty hunting is the process of digital watermarking. This technology has been integrated by the company CustosTech, which has used bitcoin blockchain technology to embed a monetary benefit (Bitcoin tokens). This elucidates the impression that when such a watermark is embedded in specific content, it would be nearly impossible to remove, thus, CustosTech will be able to examine who the recipient of the content was if pirated. The monetary reward embedded allows one who discovers a pirated piece of content to earn Bitcoin tokens (Reiff, 2021).

Apart from the inherent problem of piracy blockchain technology can further work towards creating an overall improved transaction system for staff involved in the film industry. Apart from just financial transactions, blockchain technology can help validate ideas, assets, propositions and more. Starting off with financial transactions, blockchain technology can help reduce the rate of cybercrime within the film industry by verifying and keeping a track of transactions. The network can ensure each transaction is legit which can allow the audience

and filmmakers to keep transparent accounts (Gore, 2022). Other than this, it's common for certain companies to take advantage of creative workers by discrediting them for their rightful ideas/creative work, therefore using blockchain technology as a decentralized medium to distribute ideas and other propositions will make any circumstances of theft less common.

To add on, the integration of smart contracts can be used as a form of revenue distribution as well, collections can be distributed while being stored on a ledger (Sharma, 2019). Not only this, but another crucial aspect is also the risks associated with investing in the film industry as a whole. The lack of transparency within film studios and companies can be a deception which causes a larger number of risks for viable investors. Each investor can set up a virtual entity on the blockchain network to fund their projects, this will allow them to sufficiently analyse their anticipated outcomes and profit for each creative project. Another benefit of blockchain technology is that stakeholders can convert their digital assets into monetary income in case they expect losses and insufficient growth in a project (Gore, 2022).

Furthermore, a key part of blockchain technology is NFTs also known as non-fungible tokens, these NFTs can be used to crowdfund and get the necessary monetary requirements for certain creative projects. By offering exclusive digital artwork, certain companies will be able to acquire the required amount of funds. This can also work towards building better relationships between fans and certain film production companies (Roxborough, 2022).

Challenges in the application of blockchain technology to the creative industries

The use of blockchain technology in the creative and film industries has been a topic of debate in recent years. While some see it as a way to improve the distribution and ownership of creative content, others have raised concerns about its potential to disrupt the existing business models and practices in these industries.

One of the main challenges of implementing blockchain technology in the creative and film industries is the lack of a standardized framework or set of guidelines. Since blockchain is a relatively new technology, there are no established best practices or regulations that organizations can follow when using it in these industries. This lack of standardization can make it difficult for companies to effectively implement blockchain solutions and can also lead to confusion among stakeholders (Eliaçık, 2022).

Another challenge is the issue of scalability. The use of blockchain technology typically requires a large amount of computing power, which can be expensive and time-consuming. This can be a problem for the creative and film industries, which often rely on large amounts of data and require rapid processing times. In addition, the decentralized nature of blockchain technology can make it difficult to manage and control, which can be a

challenge for organizations that need to maintain a high level of security and privacy. There are also concerns about the potential for blockchain technology to disrupt existing business models and practices in the creative and film industries. For example, some have argued that the use of blockchain could make it easier for content creators to distribute their work directly to consumers, bypassing traditional intermediaries such as studios and distributors. This could potentially lead to a decline in revenue for these intermediaries, as well as a loss of control over the distribution and ownership of creative content.

Conclusion

The adoption of blockchain technology in the creative industries has not been without challenges. One of the primary challenges is the lack of understanding and knowledge about the technology among creators and industry professionals. Many people in the creative industries are unfamiliar with blockchain and its potential applications, making it difficult for them to see the benefits of using it in their work. Additionally, there are concerns about the scalability of blockchain technology and the lack of standardization and interoperability among different blockchain platforms. This lack of compatibility can make it difficult for creators to easily move their digital assets between different platforms, which can limit the potential for collaboration and the sharing of ideas - two factors the creative and film industries thrive off of.

However, despite these challenges, blockchain technology has the potential to revolutionize the creative industries by providing a secure, decentralized platform for managing and distributing digital assets. By providing a secure, transparent platform for tracking ownership and attribution, blockchain technology can empower creators to manage their intellectual property and gain more control over their work. Furthermore, the use of blockchain technology can help to reduce the risk of fraud and piracy, which are major issues in the creative industries. By enabling the creation of immutable ledgers, blockchain technology can provide a tamper-proof record of ownership and attribution that can help to protect the rights of creators and prevent the unauthorized use of their work.

It can thus be concluded that to fully realize the benefits of blockchain technology, it will be important for creators and industry professionals to continue to educate themselves about the technology and work together to develop standards and protocols that can enable its widespread use.

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