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Understanding Blockchain Technology with Legal Implications on the Music and Entertainment Industry

This essay will show an understanding of blockchain and how it can affect intellectual property regarding the music and entertainment industry in a negative and positive light. Blockchain is known for its 'record-keeping technology' using cryptocurrency like Bitcoin. It is digital information stored in a public database using a cryptographic code. Whenever new data is stored it is added to the 'chain' of 'blocks' and each block has its own identity called a 'hash' (Reiff, 2020). It gives anyone access to viewing the information but doesn't allow them to change the information unless granted by the owners. Even though transactions between owners aren't completely anonymous, personal information is, like a digital signature for example. 'Blockchain is essentially an open and distributed ledger, in which transactions are securely recorded in blocks' (Liang, 2020). More analysis like this will be discussed during the essay to decide whether or not blockchain will be useful to the music and entertainment industry.

Blockchain 'is practically immutable' (Khouri, 2017). This means that it is almost impossible to change a block once it is published. To be able to change the information you would need to undo all the other blocks in the chain. This can be useful when discussing copyright and the original owner, or owners, of copyright as sometimes it is never straightforward for someone to find out who it is. The Copyright and Patents Act of 1988 helps establish that 'the owner of a sound recording is the person who [makes] the arrangements for the recording to be made' but also 'the producer' owns the copyrights too (Harrison, 2014, p.g. 75-76). By using blockchain, you would be able to find who owns the sound recordings, the composition and performers rights, which you would normally need to pay a company, like music publishers, to find these kinds of details. Once the music is 'published on the ledger' it will be given a 'unique ID and timestamp'. This then solves any problems with the music being downloaded and put out illegally, which allows for the consumers to see and verify the work. 'Blockchain...can establish a more direct relationship between creators and consumers.' Consumers that listen to artists will be able to listen to their album of choice and 'immediately reward the stakeholders with cryptocurrency', which allows artists to have direct monetisation (Dickson, 2016). This is done using something called a 'smart contract that instantly split and pay royalties with no additional middlemen like labels' (Dredge, 2018). This can be a great advantage for artists or songwriters who don't have a big record label behind them. A company like PeerTracks lets artists 'claim 90 percent of their sales income, rather than the approximate 15 percent they currently get' (Dickson, 2016). They can do everything on their own and make sure they get paid for their work in a fair way. However, this can be disadvantageous to music publishers and their whole attribution to the music industry, as well as royalty collection societies like PRS. Music publishers and collection societies are used mainly to give 'licences to people who want to use music...look for ways to use music', like in

movie soundtracks and advertisements, which you also need a synchronisation licence for, and to make sure they collect the royalty payments from these uses and licences (Harrison, 2014, p.g. 108). Collection societies usually just license the music and gather the royalties for the artists and owners of the copyrights. But if they are international collection societies the owner is guaranteed royalties from all over the world 'and in the developing area of cross territory licensing' (Harrison, 2014, p.g. 108). When it comes to an artist just starting out in the music industry and using blockchain, they may not have the right knowledge and experience to know what to look for when it comes to the use of their intellectual properties. Even though publishers tend to take around '25% to 50% of the writer's income', depending on the deal they make with the writers, some are worth it because they can give advances on the royalty payments (Gordon, 2015). This means that they can give artists and writers an upfront fee and once the royalty payments come in, they can take it back. It can help when an artist is about to go on a tour where they will need money for travelling and food for example. But when it comes to blockchain, this can't happen.

Transparency was one of the main 'strengths' that the public thought would be a great idea when becoming aware of blockchain. What is meant by transparency is having almost all company records available for the public to read. John Monarch, the CEO of ShipChain, which is an ecosystem that uses blockchain to battle fraud and stop shipping industries losing packages, believes that the 'transparency was too hyped when blockchain first came onto the scene' (Monarch, 2019). He says that people emphasized blockchain so much that it could possibly be capable of solving the world's major problems. Being transparent for a business would improve the relationship with its customers as they would be able to see how the business deals with information and also if the business is fraudulent. Everyone involved, from clients to businesses, 'benefit from opacity'. The companies that don't want to become 'transparent...are the ones who profit off opacity' (Monarch, 2019). On the other hand, Charles Silver wrote an article saying the encouragement for 'public companies' to become "transparent" is having a 'deleterious effect' (Silver, 2020). The American Bar Association said it can cost 'approximately \$4 million, on top of an average one-time fee of \$1 million' just to prepare the companies for the initial public offering. Not only that, they'd have to pay an annual fee of '\$1.5 million...to comply with ongoing regulations' (Silver, 2020). Once the company is available to the public it allows them to 'poke holes', which is where consumers lose confidence and trust, resulting in the company losing a lot of their revenue. This can also cause issues for record labels, and other royalty paying companies, because all the figures will be there for everyone to see, which artists and their labels may not be 'comfortable with that level of transparency' (Khouri, 2017). Some may want the transparency to be able to understand what happens with payments and if the deal they have with a label is as good as it seems when it comes to the percentages of who gets what. David Byrne wrote an article on The New York Times in 2015 where he says, 'labels also get money from three other sources...advances from the streaming services, catalogue service payments for old songs and equity in the streaming services themselves' (Byrne, 2015). From all these payments you would think that they would give their artists more of a handle and give them a bigger percentage from their streaming plays.

Blockchain is said to be really secure, and many were led to believe that blockchain is almost impossible to hack but it is still achievable. Ethereum Classic had a big case with this in early 2017 where they had hackers steal nearly a total sum of '\$2 billion worth of

cryptocurrency', which is only 'what has been revealed' to the public (Orcutt, 2019). Most of this is from exchanges but it isn't shocking to see since 'blockchains are particularly attractive to thieves' because the transactions cannot be changed back. It was only a matter of time before hackers could find a way to do it and they did this by verifying data that seems valid to the system. This then adds onto the blockchain that allows the hackers to redirect the cryptocurrency into their own accounts, or virtual pockets. 'The more complex a blockchain system is, the more ways there are to make mistakes while setting it up' (Orcutt, 2019). What is meant by that is whilst programmers are focused on making the system private and secure for money transactions, they may lose track of the simple ways to hack the system. Monty Munford shared his experience with BBC News about how he lost £25,000 because his 'cryptocurrency was stolen'. In the year of 2017, Munford chose to make some investments in the Ethereum cryptocurrency network. He had planned for the investments to help towards a pension in the future. Munford was given two choices on where to store his cryptocurrency, an exchange where his research showed was more likely to be hacked, or 'an encrypted digital storage wallet', which is what he chose (Munford, 2019). He was given two keys in order to transfer money or to view his wallet, and subsequently didn't store them properly. The hacker moved his funds into another account and 'there was absolutely nothing [he] could do about it. There seemed to be no-one to complain to' (Munford, 2019). When using blockchain and having your cryptocurrency stolen there isn't a 'safety net' or a 'Financial Services Compensation Scheme' that can give you 'up to £85,000' to compensate for any money taken. Even contacting the police to try and track down the hackers took around six months to even get somewhere and more time was spent locating them after that (Munford, 2019). The hackers managed to split the money into smaller accounts and covered their virtual tracks well. In the end Munford couldn't retrieve the £25,000. This can be really damaging to companies in the music industry that transfer large sums of money. Not only can a hacker steal the cryptocurrency but if someone had put the wrong details on the actual blockchain, that money would be sent to the wrong person. Unless they are willing to cooperate and send the money back, this can be really ruthless. When looking on the Bitcoin website on what to do if you accidentally send cryptocurrency to the wrong address, Stan Havryliuk, the head of global support on Bitcoin, has said that 'all Bitcoin transactions are irreversible...there is no way to reverse a transaction that has already been sent' (Havryliuk, 2020). This is the case for most blockchain systems. In order to avoid this being done whoever is making the transaction will have to double check their details and the details of the account that they are sending their cryptocurrency to, to make sure this is not done to them, otherwise they lose everything.

Singer-songwriter Imogen Heap has worked on her own music ecosystem involving blockchain called Mycelia. On the website for Mycelia, it states how they want to create a just, maintainable and exciting music industry and by doing this they will use blockchain technology to make sure creators can have more control of their music and revenue. Heap says how she would like to help artists 'shape their own future' (Dickson, 2016). She believes that blockchain technology solves the 'missing layer for the industry...[as] musicians lose millions a year thanks to digital theft and other issues' (Armstrong, 2018). The music ecosystem has something called a 'creative passport' that helps with verifying creators, giving them an ID and lists their acknowledgements as well as all their works. But, most importantly the payment mechanisms. It likewise helps consumers find new music to listen to. Heap understands that this will take time because she started with this idea in 2016, and now she has the website up, but the team is still working on getting it ready for the public. The only

problem with the music ecosystem and the music industry using a more blockchain approach is that no one has settled on one website. Or working together to make sure this happens, and it makes you think if the music industry is even ready for it. Allegedly the last time the 'music industry tried to create a "global repertoire database" ...collapsed in 2014 after £8 million' was spent and there were lots of disputes between those involved (Dredge, 2018). 'Blockchain...may not [be ready] until at least 2028' (Stamford, 2019). What is meant by this is that a lot of people don't believe blockchain technology will be ready in the near future. A lot of 'blockchain projects are stuck in experimentation mode', which means no one has been able to find an actual way to make sure the system works, and it is still something no one is really ready for, especially the music industry. The reason blockchain was made out to be a very big deal was 'because of the promise that you can get rich for free, [and] that's a very powerful promise' (Espiner, 2018). It is said that most people nowadays aren't interested anymore or that blockchain is a passing craze. 'A blockchain is just another type of database', this line goes to show that the public is not bothered by it anymore and can find other ways to encrypt their files. Including the fact that it is still a work in progress because no one has managed to find a way for blockchain to be secure, but also because 'anyone can launch a blockchain-related start-up and convince inexperienced investors to support it' (Tozzi, 2019). But that is not to say there aren't any smart minded people or big companies using blockchain; 'Facebook has announced the Libra cryptocurrency, powered by blockchain technology' (Tozzi, 2019). Blockchain is still around and will continue to be in the future, even if some of the public aren't convinced it is worth it and if it takes years for it to be secure and reliable.

Overall, blockchain is a great idea in terms of helping the music industry change as technology changes, however, but maybe the industry is not ready for it yet. There are still a lot of prototypes out there that are trying their best to make blockchain work for their companies, but there will always be hackers who manage to work out ways to gain access and steal large sums of money as previously discussed. It does help consumers gain a trustworthy relationship with their creators, and it greatly helps the creators take more control with their creations. Yet there will always be a suspicion and worry that everything can be taken and wiped overnight. Blockchain promises to solve a lot of problems, but what the public need to know is that it will not be as quick as they think, and the public needs to keep an eye on how it develops because one day it will be able to completely transform how businesses operate. Technology has shown this by phones accessing the internet, and video calling from the computer. Blockchain will happen and there is no stopping it, and it can be dangerous to possibly wipe out companies like music publishers and collection societies. Nevertheless, maybe for now it is easier to stick to what we know until the world is ready for blockchain to change it.

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