DIGITAL IS NOW THE DEFAULT MODE OF MAKING, RECORDING, TRANSMITTING AND EXCHANGING CONTENT. Creating consistent, reliable, transparent and timely data about, for example, who owns what, who’s entitled to use it and who owes who (and how much) has never been more important, nor more challenging.
In today’s world, every set of data has an owner, and trust in that data depends on the security and responsibility exercised by each party.

Commercial transactions happen in one of two main ways: multiple parties reach an agreement and store the evidence locally or a trusted third party intermediary acts as a facilitator. But however they’re organized, today’s content transaction processes require reconciliation across multiple data stores (across the different parties in the ecosystem) which drives costs, exceptions and delays in updating records.

Both approaches can lead to inconsistencies, disputes, and a lack of transparency. Blockchain is a new technology that can introduce the possibility of seamless transactions, with data coexisting between multiple parties all having controlled access to a single, shared source of the truth.

In the media and entertainment industry, the ability to share a single, immutable set of records could be transformational in a wide range of contexts, from content distribution to advertising. Greater transparency, more accurate payments, more detailed understanding of audiences for specific content and more effective targeting of advertising, are just some of the potential benefits. But for media businesses to take advantage they’ll need to understand how the technology works—and its implications for each and every participant in industry value chains, from content creators to consumers.
WHAT IS BLOCKCHAIN?

It’s easiest to think of blockchain as a new database model, configured to offer all parties a unified single ledger. The technology’s particularly adept at achieving two things:

1. **MUTUALIZING DATA**—allowing multiple parties to work together in a value chain or across an ecosystem to leverage and help update a single version of the truth, with shared visibility, historical auditability and because each party keeps a copy of the ledger there can be no single point of failure in a network.

2. **VALUE TRANSFER**—allowing transactions to be made and tracked as permanent and digital tokens with a complete verifiable history of ownership.

Blockchain’s decentralized digital data network and potential to become a cross-organization and cross-industry “backbone” creates new possibilities for visibility, enforceability and efficiency. As such, it has the potential to disrupt long-standing business models. But most importantly, it is poised to spark large-scale transformation of value and trust in much the same way the internet did for information.

For media and entertainment businesses in the digital era, blockchain clearly presents some significant challenges and opportunities. Among other things, it has the potential to transform areas such as Digital Rights Management (DRM), advertising, and contract management.
ORIGINS AND CURRENT USES OF BLOCKCHAIN

Blockchain’s most familiar use is as the underlying technology behind the cryptocurrency Bitcoin. But that’s far from the whole story. Many large organizations, including businesses, central banks and regulators, are now investing heavily in exploring the technology’s value as a digital business platform. It’s becoming increasingly clear that blockchain would have a significantly disruptive impact across the entire value chain of many different industries.

By 2020, it’s estimated that blockchain technology would be able to help reduce many of the validation and verification steps that enterprises need to take care of today. The technology would be able to eliminate dependencies, constraints, and inefficiencies from any transaction-related process as well as open up transparent ecosystems for multiple participants. In fact, many companies across the media and entertainment industries, both startup and enterprises, are already experimenting with blockchain’s potentially game-changing capabilities.

THESE USES INCLUDE real-time global payments that helps lower settlement costs by enabling banks to transact directly, instantly and with certainty of settlement. A company called Ripple provides global financial settlement solutions to help exchange value in a much more simple way. It claims it will give rise to an Internet of Value (IoV). Banks, financial institutions and market makers around the world are partnering with Ripple to improve their cross-border payment offerings. Supply chain transparency and traceability is another application of the technology, being used in food supply chains as an essential way to secure consumer trust, for example.
So how might blockchain’s impact be seen in the media and entertainment industry? As with the internet in its early days, it is hard to determine what its effects might be in the long term. Most industries are only beginning to experiment with this new technology; but one thing is certain—there would be short-term and long-term impacts for media and entertainment entities.

So how does an organization begin exploring in this space? We would examine that process later, but the first step is understanding the technology and how it can impact the communications and media industry. The areas where we see big implications include the management of digital rights, attribution of content and advertising, to name a few. Now we look at some of the most likely candidates for change.
Blockchain networks can connect participants throughout the media supply chain, which can solve many of the challenges inherent to DRM in creating a comprehensive rights management regime. Verified consumption information can be shared directly from distributor to creator in real-time, offering real transparency and eliminating the requirement for expensive manual reconciliation processes. With all parties sharing and verifying the same records, there would be no doubts around accuracy of records being entered into the ledger. Media businesses from creators to distributors stand to gain, as do consumers. In the following sections, we look at blockchain’s implications across a number of key areas of digital rights management.
TRANSPARENCY, ACCURACY AND ACCELERATED PAYMENT

Media distribution has shifted dramatically within the past two decades from physical retail to a-la-carte downloads to subscription streaming. Digital music streaming revenue overtook its download counterpart in 2016, with global streaming revenues rising 65.3% to US$6.6 billion, and downloading revenue declining 18.4% to US$3.5 billion.

One key effect of this has been to push creators of music further and further out of the supply chain. This leaves many smaller and emerging artists, who lack the enforcement resources of global superstars, with little control over their original content, and limits visibility into how they are compensated for their content’s use. But blockchain could help address some of the opacity and delays that can see artists waiting a long time for and having very little information about their content-related payments.

Platforms like Ujo Music and MUSE aim to give artists unprecedented control over how their music is distributed, consumed, and paid for. For example, since releasing musician Imogen Heap’s Tiny Human track on its blockchain platform, Ujo has gone on to develop a robust distribution system that gives artists visibility into consumption, and makes automatic royalty payments. SingularDTV aims to bring similar functionality and disintermediation to the rest of the entertainment industry.

Although we are not quite at the point of having major artists on platforms like these, blockchain and smart contracts open up the potential for micropayments to be deployed to pay out royalties on a per-stream basis. With these types of solutions, the wait for artists to receive royalties drops from years to seconds.

Greater visibility into content usage and accelerated payments could also be a source of platform differentiation to attract content creators for any medium, such as, e.g., attracting video creators to video sharing platforms.
ENHANCED LICENSING AND MONETIZATION

Media companies have faced myriad rights challenges arising from the digitization of content. These range from lost revenues to misattributed ownership, and from licensing complexity to protecting pre-release content. What’s more, blockchain itself has the potential to pose a big challenge to businesses such as distributors, as it threatens to disintermediate them by providing a new ecosystem that connects content creators directly to consumers. However, if media businesses act quickly enough to embrace this new technology, they can get ahead of the threat, and instead leverage blockchain to their own benefit moving forward.

Opportunities for the industry to take on new roles abound. Universal, trusted, record-keeping capabilities offered by blockchain could be used to license content in new ways. Even small segments of content could be easily licensed, so that, for example, a video creator can easily use a movieclip in their video, while still ensuring that stakeholders are properly compensated. What’s more, blockchain’s transparency can be used to keep track of content during production. This can be especially useful for movie production, where special effects are often contracted out to third-party effects houses. That content can be locked down to specific users who own tokens that grant access. Custos², a South African startup, is embedding cryptocurrency into media files which can be cashed in the event of a leak. From there, Custos can track down the original source of the leak.
REINTRODUCE A SENSE OF RARITY, AUTHENTICITY AND CONNECTION

For most consumers, digital content has made life easier and more convenient than ever. Media subscription services allow consumers to listen and watch as much content as they like for a monthly fee. But they’re not the only segments that companies could target.

Niche consumers, who crave deeper connections with their content have faced challenges with the digitization. These consumers still want to own content, rather than simply pay for access to it. They’re most likely to purchase merchandise, attend events, and seek out unique experiences with content creators. While not as large as the mainstream, this niche market is significant, and its typical consumer is willing to spend more than the average on his/her content. For example, sales of vinyl records are approaching $1B in annual sales, largely owing to the resurgence of this segment of the market, with vinyl buyers being heavy users of media and a very attractive segment to target.3

For these niche consumers, blockchain can be leveraged to regain the attractive scarcity of media that disappeared with the digital age, and with it a sense of authenticity and connection. Tokenly’s4 music platform, for instance, allows artists to sell tokens that grant access to music and a variety of other extras, such as access to concert presales, chatrooms with the artists, and prerelease songs. These tokens are transferrable and resalable, but they cannot be copied. They are truly owned in the same way as physical CDs or vinyl records. However, their digital nature allows the tokens to be used in new ways.

Another segment worth considering is ‘prosumers’, such as DJs, video creators, and app developers, who want to make use of copyrighted content for their own purposes. Currently it can be very difficult for these independents to license that content.5 Blockchain could help open legitimate use of copyrighted material to a much wider range of smaller creative businesses and ensure royalties can be tracked and paid to content owners.
Digital royalties are paid by music streaming services and webcasters to Sound Exchange, and accompanied with playlists of all the recordings played by the service provider. But making those payments accurate and timely is a hugely complex undertaking.

It’s particularly so for those webcasters that play music to listeners without them choosing which songs they want to hear (unlike streaming services such as Spotify). Those services are now subject to a different royalty rate set by The Copyright Royalty Board (CRB).

We believe that immutable shared ledgers can be deployed to preserve attribution records, which are used to track media collaborators and their revenue sharing agreements. Currently, these records are stored in disparate systems across the media value chain, leading to discrepancies. Ultimately, it is creators and collaborators that pay the price for these discrepancies, with payments being lost.

Recognizing the potential for a new approach, Spotify recently acquired Mediachain®, a blockchain startup that develops technology to unite media with its metadata across systems and entities. This means that an original piece of digital media can be correlated to the artist that created it through metadata. Spotify could potentially use the technology to more accurately compensate music creators and collaborators.

The technology could be deployed to compensate stakeholders of remixes, mashups, and samples of music or any digital content in new and streamlined ways. Further, a single metadata ledger could also enhance relationship algorithms to drive more personalized search and discovery of content.
SOUND EXCHANGE, a non-profit performance rights organization based in Washington, D.C. represents recording copyright owners in the digital space, with negotiating power over royalty payments under the jurisdiction of U.S. law. The organization has many purposes, but primarily collects performance royalties for recording artists and labels whenever music is played through a digital platform.

Sound Exchange takes the royalty payments, allocates the fees to the recordings according to how often each song was played, and then pays the featured artist(s) and rights owners of those recordings. Sound Exchange has paid out more than $4.5 billion in royalties since its first distribution.

Businesses from across the music value chain, from publishers to distributors, have joined forces to form the Open Music Initiative (OMI), which is similarly working to solve the problem of attribution, using Linux Hyperledgers Sawtooth Lake blockchain platform. The group has united some of music’s biggest names to solve this challenge. OMI hopes to build a set of standards for maintaining a universal attribution record through a transparent infrastructure. They are not building a central database, but rather the rules for how the music industry can share a future ledger.
Blockchain offers considerable potential to advertising. These concepts start with transparency of ad exchange data among many parties to increase data sharing within an industry from which all can benefit. Blockchain will have a long-lasting impact on how we view:

**TRANSPARENCY.** For example, greater transparency from the ability to track an actual impression (i.e., actual viewing, which is still under debate) and the ability for advertisers who make use of agencies or platforms to audit ad campaigns.

**BLOCKCHAIN ALSO HAS THE POTENTIAL TO HELP ENHANCE THE VALUE STREAM OF AN AD EXCHANGE.** A consortium that participates in accurate and transparent documenting of audience data could help differentiate an ad exchange and hence its ability to attract new advertisers. That ability, in turn, opens up the possibility of making better use of data leading to help improve targeting (higher CPMs), better cross-sell, up-sell, retention and so on.

**A SINGLE COMPANY COULD ALSO LEVERAGE BLOCKCHAIN.** To enable a single customer view across disparate services (e.g., for a telco that could cover video, broadband and wireless, creating a “digital identity” of the customer).
Automatically matching precise consumer behavior and attributes to targeted advertising in real-time is one of the major promises of digital content. It’s a future goal that blockchain would have a major role in realizing, but the technology is not yet sufficiently mature to handle the volume of transactions required. Within the next one to two years, though, there will be blockchain solution(s) that would be able to handle the scale required for an industry-wide solution. Cable providers are already looking into this technology, with open source platforms that are currently being testing with a limited group of participants.

A project that was publicly released in 2017 aims to allow multiple groups to transact consumer and advertising data with each other directly in a transparent environment. The goal is to connect content providers with advertisers to assist in pairing data sets using a blockchain that can assist with executing highly targeted media plans thanks to better insights into consumer behavior.

There are two ways companies currently get this data. First, through trusted third parties, which can be a slow process to “data match”. Second, through “data-for-insights” trades with an organization that is willing to participate. These inefficiencies in consumer and advertising data sharing could well be solved via a blockchain solution and in the process help the industry as a whole. This solution could improve impression measurement by enabling a common, industry-wide standard that ensures accuracy from all participants.
The impact of blockchain on entertainment and media is now starting to emerge. We’ll start to see use cases within the next 12 months, with scale deployments in 24-36 months. It would take a few key use cases to ‘prove’ to the industry that the technology is feasible, but adoption will happen quickly and there would be a rush to implement and scale these effective solutions. This paradigm shift would differentiate those organizations in the marketplace that are first to innovate and create new and satisfying solutions.

So what could some of those innovations be? Media companies that use blockchain to drive cost efficiencies in areas like payment reconciliation could, in a price sensitive industry, create a competitive cost advantage and extract higher margins. Using blockchain to help improve the attribution of advertising could offer an innovative way to differentiate platforms to advertisers and attract ecosystem participants. But use cases like these that would drive tangible benefits are just the beginning for blockchain’s implications for the media industry.
What does blockchain innovation look like for media companies?

Initially, use cases and proof of concepts to drive cost efficiencies in areas like payment reconciliation could create a competitive cost advantage and extract higher margins in a price sensitive and highly competitive industry. Other areas to consider are the attribution of advertising which could offer an innovative way to differentiate platforms to advertisers and content providers while creating seamless sharing of consumer data that lead to increased insights. But use cases like these that would drive tangible benefits are just the beginning for blockchain’s implications for the media industry. As more organizations begin participating and experimenting with the technology more use cases will arise.

Just as the rise in data and analytics created a demand for data scientists, data visualization experts and many more positions to support successful implementation, so too would blockchain create specific talent needs. Accordingly, we’re already seeing increased demand for skilled blockchain software engineers, business-minded change enablers, and forward-thinking leadership who understand where this technology could create the largest impact within their organization and industry.

There is a clear opportunity for media and entertainment companies to start understanding how blockchain can drive efficiencies and potentially get ahead of the coming disruption. As they do, they need to bear in mind a few guidelines:

1. Identify and prioritize relevant use cases: those that add value and solve real problems or address innovative market opportunities.

2. Experiment with a few high-priority use cases defining what they are, the role of blockchain, impacts on the business model, and value drivers.

3. Create a prototype/proof of concept to understand a specific use case. Clearly define the issue at hand and the solution the technology provides.

4. Launch pilots to gain real-world feedback and understand implementation. Launch successful projects into the production environment and rollout to target customer segments, scale, manage and optimize as an enterprise capability.
Blockchain’s future can be summed up in two words: **RAPID CHANGE**. The question for media and entertainment companies is how to quickly adapt and leverage this technology to their business models to become more efficient while at the same time continuing to innovate with new products and services for customers. Understanding a strategic way forward to drive the potential of blockchain can help media companies get ahead of the competition and potentially create a new level of collaboration and trust for the future media industry.
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