Blockchain: Understanding the Hype

A technological viewpoint across industries

Few of the emerging technologies have captivated as much attention as blockchain. The technology behind the cryptocurrency of Bitcoin has rediscovered itself as a new disruptive force that is supposed to "do for transactions what the Internet did for communications." Using our unique position at the crossroads of business and technology, we talked to our experts in major industries to see what drives the hype and whether blockchain keeps its promises.

Finance

With major financial institutions such as JP Morgan Chase and global tech companies like Microsoft joining forces in the Ethereum Alliance, blockchain is coming of age as a technology for financial services. It has the potential to be a game changer: the technology has left behind its bitcoin origins and now stands, as a useful tool for meeting real business needs. Utilized correctly blockchain is not 'tech for tech's sake,' but a solution that can bring real gains for financial services and change complex intermediate functions in the industry, such as:

- Identity and reputation
- Payments and remittances
- Stock exchanges
- Insurance and risk management
- Audit and tax functions

Moreover, as the blockchain ecosystem grows, new and exciting uses are starting to be developed. One of the most interesting is the concept of "Initial Coin Offering." This would allow firms a new alternative to traditional angel and IPO routes to funding. Instead of reaching out to investors and/or floating on a stock market, tech firms can create their own

crypto-currency, issued on their own blockchain and sell 'coins' to raise capital. As we see multiple industries, including finance, already rely on blockchain and others will catch up soon. Now one thing is certain: blockchain is here to stay.

Media and Entertainment

Blockchain is undoubtedly one of the most widely discussed new technologies in media, music, and entertainment. Transparency, better data, improved efficiencies – the benefits have everyone excited, even if some of the hyped promises seem far-fetched (e.g. total exclusion of all aggregators). It is important to understand there are real-life applications that are already proving they work.

Even after the digital revolution, the industry still faces some of the old challenges, such as a lack of transparency due to inconsistent or even unavailable data. The sheer volume of information, diverse content, and its multi-channel distribution make it challenging to keep track of all assets. Lost or mismatching metadata and disputes over royalty payments are an unfortunate legacy the industry needs to deal with. Blockchain seems like a great tool to do that, as many new initiatives – such as Benjie Roger's **dotBC** – advocate its usage. The point being that blockchain can track real-time usage of copyrighted material, license sales, rights acquisition and collecting fees. Whereas blockchain-based "smart" digital tickets provide a completely new level of security in ticketing and events. As we see it, not only does blockchain hold the potential to disrupt current revenue and digital supply chain models, it also promises a solution to the industry's biggest pains – unreliable metadata, ambiguous royalty payment, complex asset management. However, blockchain is not a miracle worker and it will probably take a combination of several technologies to fully realize its potential. What's more, it calls for a collaborative effort of various industry players, as any technology is only ever as good as the people behind it.

Travel and Hospitality

Travel and hospitality technology innovation is generally accepted to be lagging somewhat behind industries such as finance/banking, insurance, healthcare and telecom. However, various industry bodies that set standards for interoperability between systems have active working groups with the aim of defining the standards which will be in place over the coming years.

There are a few main areas in the travel and hospitality space, which the blockchain is expected to disrupt: loyalty (rewards) programs, mobile credentials (enabling the mobile device to unlock a hotel room door, for instance) and booking transactions. Therefore, our position is that it is important for hospitality operators and technology vendors with systems and operations in each of these areas to do three things:

1. Start learning about blockchain: identify potential internal and external expertise and start developing small systems that can operate in a blockchain environment.

2. Develop a policy on the areas that will influence your business, and try to influence the standards bodies once you have a well-thought-out policy.

3. Budget and plan for development in the areas you see as most important. Remember that some infrastructure will also be impacted, so your review and preparation needs to be medium to long-term.

Healthcare and Life Sciences

Nowadays blockchain goes beyond bitcoin and the finance industry. The healthcare sector appears to greatly benefit from the use of blockchain technology. Large companies have already started exploring the potential uses of technology and are actively working on healthcare blockchain systems, instruments, and prototypes. For instance, Accenture and Microsoft have created a blockchain ID prototype, Bowhead Health designed the world's first blockchain-powered medical instrument and IBM Watson Health built a secure exchange for data.

The simplest and most obvious application of this technology in healthcare is the creation of a medical file, where a continuous history will be kept in a card of each patient. Blockchain will make it possible to create not just a lifelong medical card for every person, but also allow any doctor or nurse involved in the treatment to study information and enter new data. In addition to this, ensuring the security of patient records and improving the interaction between different organizational divisions are only a few possible use cases.

The blockchain technology, as a driver for transformation, has sparked an intense debate on its adoption and evolution in the healthcare industry. However, even if there exist huge opportunities, the risks should still not be underestimated, as there are many constraints hampering the development of blockchain technologies in healthcare. Privacy is one of the most

frequently discussed complexities of blockchain systems, as there are plenty of questions about limiting data access to only those units that need to have access.

Critics argue that the storage capacity of blockchain will not be able to handle the huge volume of clinical data and blockchain identity may be discovered because of public access.

Gaming

Trust and security have always been a great concern in online gaming industry. Gamers always have questions as to the honesty of gaming companies in the back of their minds, wondering if they are playing a fair game. Gaming companies are also vulnerable to cheating. Dishonest players force them to continuously invest in fraud controls to stay ahead of cheaters and to prevent scams.

Blockchain brings security, fairness, and trust to the online gaming industry. Each transaction becomes absolutely transparent and visible for verification. No one can change anything secretly in their favor, and any attempt to misinterpret transactions can be detected easily. So when people are playing games on blockchain they can be sure there is nothing shady going on behind the scenes. This encourages them to put in more money into games because they enjoy playing without the risk of being deceived.

Retail and Logistics

Blockchain is already changing the digital landscape of retail and ecommerce industry to provide greater transparency, simplicity, and trust. Its application can be seen in the following three areas.

Supply chain management

The retail ecosystem encompasses an enormous number of participants: suppliers, retailers, regulatory authorities, and consumers. Such a large number of participants requires trust, simplicity and transparency of the processes, especially in supply chain management. Blockchain can help the retailers meet this challenge. The way the data is recorded and stored and the impossibility to change it after the record has been made enables tracing the data throughout the whole supply chain in real time for all blockchain community members.

Blockchain also enables product authenticity tracking and anti-counterfeiting. It can be used for tagging products, certification and ownership, intellectual property rights tracking, for warning if the product has been stolen and is being resold, and enables the owner to track the product. Blockchain reduces the possibility of fraud due to data corruption, since it is immutable by its nature.

Furthermore, blockchain-enabled, decentralized, direct document exchange between all supply chain participants facilitates faster delivery.

Warehouse management

A combination of IoT devices and blockchain can provide all participants with different data in close to real-time manner. For example, with blockchain it's easy to monitor the temperature and humidity of a wine cellar. As soon as it deviates from the set value, the signal immediately comes to the blockchain and each member of the blockchain community can see it. With blockchain and connected sensors it is easy to track the temperature of the food container in transit or the level of jolting when shipping fragile products. This ensures reduced product damage or loss, and thus results in costs savings or helps in resolving disputes.

Loyalty management

Blockchain can help retailers enhance their loyalty schemes. The technology ensures greater data storage capability due to specifics of how data is recorded, stored, and secured.

Digital currencies, like consumer points, can be easily tracked in real time. It enables verification of consumer's points and helps prevent them from being passed to someone else when prohibited. Real-time consumer data insights enable individually tailored offers and thus greater customer satisfaction.

The other way to enhance customer loyalty is by supplementing paperwork. Blockchain technologies can be used for digital product warranty management, digital receipt for in-store purchased products allowing easy and paperless return and refund processes.

Blockchain is still in the beginning of its journey. We've uncovered a great variety of uses that the technology can be applied to, and a colossal potential

to shift the long-standing business and revenue models in many exciting new ways. Nevertheless, it is important to understand that no one technology is a universal panacea for all woes. It requires a careful analysis in each individual case to establish a path to successful adoption. As with many promising new technologies, the right partnerships and proper implementation are key.

This piece was written by Denis Baranov, Principal Consultant at **DataArt**, a global technology consultancy that designs, develops and supports unique software solutions, helping clients take their businesses forward.

Original article can be found here: https://www.technative.io/blockchain-understanding-the-hype/