



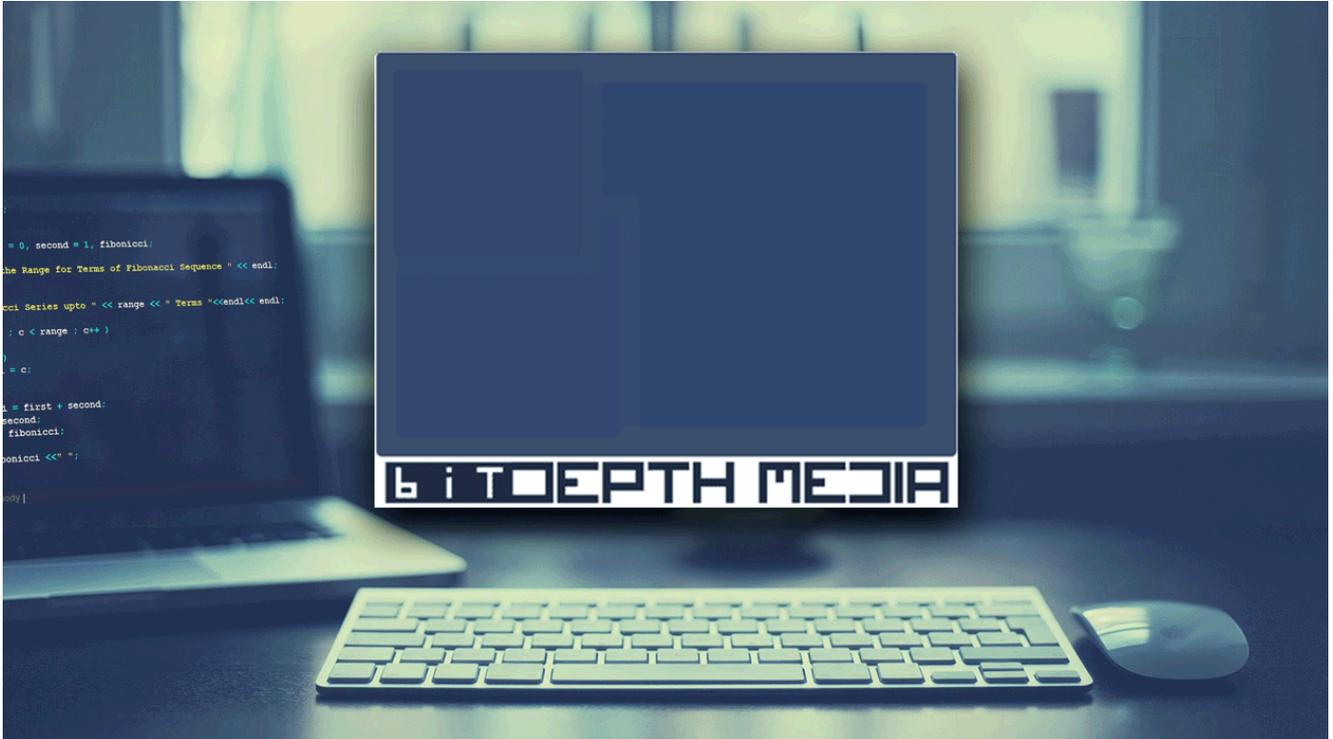
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# Blockchain Case Analysis

2018



# Foreword



As the world moves into an era of digital evolution, bitDEPTH MEDIA is focused on preparing organizations for the future and looking ahead to the challenges that await.

As an established technology firm, bitDEPTH MEDIA have established ourselves with firms, stakeholders and the public through the quality of our work. We have made great progress in advancing our objectives, informing clients of relevant technological trends, digital integrations, and the promotion of security and efficiency into everything we do.

We have used our experience to implement innovations in the market place to ensure the interests of our clients are put first. From user-focused interfaces, digital security implementations and cutting-edge technology, we have acted swiftly to facilitate changes in the industry that benefit organizations and streamlined their budgets throughout the country.

Now, with the advent of autonomous vehicles, artificial intelligences, and information security risks upon us, significant changes to how organizations operate must be reconsidered and addressed to prepare for the new age of technology in 2020 and the decades beyond.

Blockchain Technology is the key to bridging the realities of today with the needs of tomorrow.

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There are still many challenges ahead. The global business and financial industries may be becoming more integrated, but social and business culture change does not happen overnight. History has shown us repeatedly that waiting for the near future to become the present only leads to a business that see's itself become the past – all organizations must adapt to a world that moves at the speed of a “share”.

bitDEPTH MEDIA is undertaking new changes as we refocus our company goals to guide organizations and help them build and/or implement a blockchain structure that not only makes their systems more efficient and cost effective, but to creatively find ways for that system to help increase and create new revenue streams. This will include a change to the way in which business operates in its industry, bringing about greater accountability and transparency.

Significant change will also come with the addition of our Business Development and Technology division, led by our new partner, and Chief Business Officer, Dr. Basel AL-Jabari. Holding a DBA, combined with over a decade of administrating multi-million organizations, Dr. AL-Jabari will operate within our existing structure and will lead our business team which will be crucial in the blockchain design processes, ensuring our clients not only receive the highest quality technological designs, but also receive a system designed with all business needs and priorities in mind.

Beyond the establishment of a secure, trusted, efficient blockchain system, our priorities surrounding an industry's legacy issues will see us continuing our work in areas such as migrating and accurately transferring existing data, as well as ensuring the maintenance and integrity of the system is continually updated as the technology further matures.

For bitDEPTH MEDIA, 2018 will be an exciting year and I am confident that as a company, we will successfully expand our existing and new ventures to great effect.



**Nate Talbot,  
Chief Executive  
Officer**



# ORGANIZATIONAL BLOCKCHAIN ANALYSIS

Delivering organizational efficiency

Enhancing market integrity

Building total business systems

Increasing transparency

# Why Blockchain?

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Originally used as the driving force behind the digital currency Bitcoin, blockchain has far exceeded its original usage of tracking transactions, and is maturing into the basic concept behind how all business will be done.

From supply chain management, to healthcare, finance, real estate, media, energy, insurance, payments and trade, record management, identity management, voting, taxes, NPO/NGO's, compliance and regulation, cyber security, data management, digital storage, computer processing, automated driving, AI and more, society has had to develop an array of systems to record and track every interaction in business, government, and civil matters.

Complicating things even more, society was required to trust each system it developed to protect itself from corruption, crime, and human mistakes. As each year passes, more and more systems need to be developed, and the issues of efficiency, security, and convenience become more and more complicated.

Now imagine a world where all intermediary services could be transferred to a single, trustless, secured, efficient, cost saving structure. What would that mean for an organizations overhead? Their productivity? Their stakeholders? Blockchain is the solution.

Often touted as the "Internet 3.0", for almost a decade now, blockchain technology has been proven to be the most reliable, secure, trusted, and fastest method to process and track information. Originally used as the driving force behind the digital currency Bitcoin, blockchain has far exceeded its original usage of tracking transactions, and is quickly maturing into the basic concept behind how all business will be done.

## Limitations Of Today's Business Models:

Trusted 3rd party entities must be used to validate information, leaving multiple points for inefficiencies and errors and creating a duplication of effort.

High costs and overly complex systems caused by fraud, cyber attacks, and human error.

Limited consumer trust due to non-transparent systems.

Loss of records due to theft, mismanagement, natural disasters, and finite storage capabilities.

High security costs to protect centralized and decentralized systems.

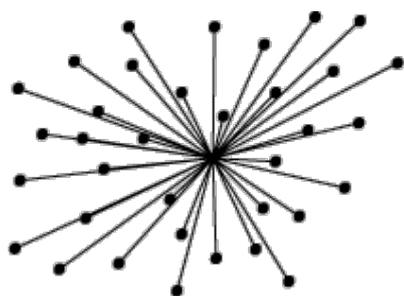
Lack of consumer participation to products and services offered due to the absence of intermediary institutions such as banks, real estate brokers, credit bureaus, etc.



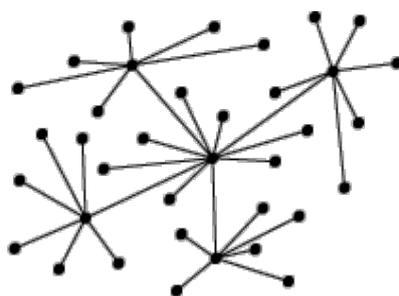
# What Is Blockchain?

The blockchain is a set of transformative technologies, inspired by Bitcoin's first implementation of a decentralized, cryptographically secured, trustless and tamper-proof distributed ledger, which can be successfully applied to a wide, horizontal range of needs.

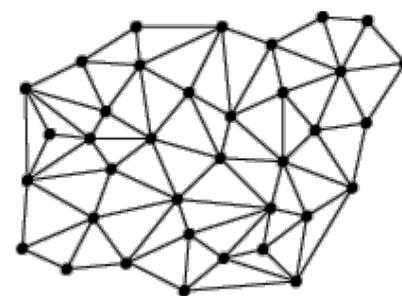
Unlike traditional systems where a singular ledger or database is kept in a centralized location, accessed by one or more administrators and updated when required, a blockchain is a group of linked ledgers, each connected to the last, and stored across a distributed network of computers, each computer – or node – continually checking the blockchain and confirming new data written to it, ensuring that all information is aligned with the previous data and protecting that data from any singular, or even multiple points of corruption.



centralised



decentralised



distributed

## A blockchain is best characterized by the following traits:

**Consensus:** For a transaction to be valid, all participants must agree on its validity. (See Chapter 2 for more about consensus mechanisms.)

**Provenance:** Participants know where the asset came from and how its ownership has changed over time.

**Immutability:** No participant can tamper with a transaction after it's been recorded to the ledger. If a transaction is in error, a new transaction must be used to reverse the error, and both transactions are then visible.

**Finality:** A single, shared ledger provides one place to go to determine the ownership of an asset or the completion of a transaction.

# Governmental Use Cases

Blockchain technology could simplify the management of trusted information, making it easier for government agencies to access and use critical public-sector data while maintaining the security of this information.

**An important function** of government is to maintain trusted information about individuals, organizations, assets, and activities. Local, regional, and national agencies are charged with maintaining records that include, for instance, birth and death dates or information about marital status, business licensing, property transfers, or criminal activity.

Blockchain technology could simplify the management of trusted information, making it easier for government agencies to access and use critical public-sector data while maintaining the security of this information.

## Illinois Blockchain Initiative

The Illinois government is conducting five focused pilots for blockchain across multiple government departments. The range of functions envisaged for the technology include record keeping (for properties and births) and an energy credit marketplace to track renewable energy credits. According to a spokesperson for the Illinois Blockchain Initiative (IBI), the agency is providing regulatory support for the projects to ensure that the use cases translate into commercial endeavors.

## Delaware Blockchain Initiative

In July, 2017, the Delaware governor signed a bill amending Delaware's incorporation law. According to reports, the initiative enables a distributed ledger to store corporate records to increase speed and efficiency in incorporating companies and startups in the state.

## Dubai Blockchain Based Currency

Dubai has made the official launch of a state-sponsored cryptocurrency called *emCash*. This will be available to citizens of the U.A.E. to pay for governmental and nongovernmental services alike. The Deputy Director General of Dubai Economy indicated that the currency will be considered fully legal tender used for various services, from daily coffee or school fees to utility charges and money transfers.

## Sweden's Blockchain Initiative

The Swedish government is piloting a blockchain database intended to significantly streamline real-estate transactions. The database would allow for trusted digital verification of purchasing contracts, bills of sale, mortgage deeds, and other critical documents. It could also shorten the time between the writing of a purchase contract and the final registration of the asset transfer from months to days, and, in some cases, hours, while also reducing the risk of errors and fraud.

## U.K.'s Blockchain-as-a-Service

A report released in January 2016 provided the framework for the U.K. government's foray into blockchain. According to the report, blockchain can be used to "reduce fraud, corruption, error and the cost of paper-intensive processes." Since then, the government has used blockchain to disburse student loan grants and track welfare checks. In the latter experiment, welfare claimants use an app to receive and spend their welfare checks. This enables the government to track the claimants' spending digitally. At the Payments Innovation Conference in 2016, Lord Freud, the U.K.'s Minister for Welfare Reforms, said he did not know if blockchain technology would work at scale.

## U.S. Federal agencies are eager to adopt blockchain technology



Financial management

Procurement

IT assets & supply chain management

Smart contracts

Intellectual Property & Royalties

Government-issued credentials

Personnel workforce data

Appropriated funds

Federal assistance and foreign aid

Corporate registrations/licensing

# USING BLOCKCHAIN:

Eliminates Centralized Data Centers

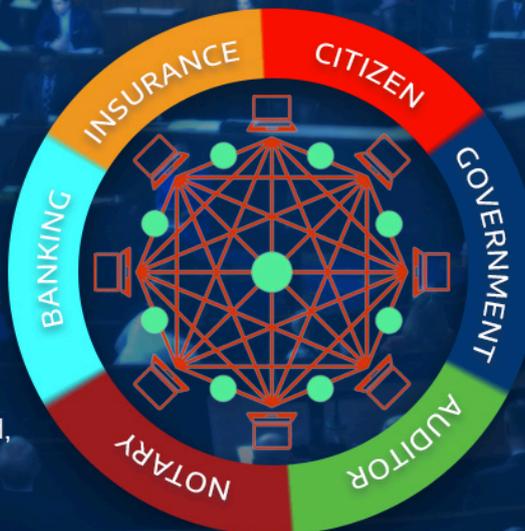
Creates provenance of when each event occurs

Allows agencies to share information without compromising data

Allows regulatory overview at any time, with confidence only the single version of the truth is being viewed

Supports encryption and allows permissions, revealing only secured, predetermined, and relevant data

Data immutability, drastically reducing fraud and abuse



Enables policy deployment immediately and simultaneously to all group members

A critical sticking point, however, is security—like their counterparts in the private sector, public agencies cannot, under any circumstances, make sensitive data accessible indiscriminately. What’s required is an environment in which data can easily be shared across systems but in which individuals and organizations can take back ownership of their data and control the flow of personal information—who sees it, what they see, and when.

Each person or organization would have all relevant data (basic personal information, for instance, or records of previous interactions with government agencies) stored in a dedicated ledger within an encrypted blockchain database. Individuals or companies could access these ledgers through their personal computers or mobile devices. End users could then give government agencies the authority to read or change specific elements of their individual ledger using public- and private-key cryptography. They could use public keys to selectively share information relating to a particular service transaction with agencies. Or they could issue private keys to agencies for one-time “write” access to their data.

How can governments take advantage of the rapid pace of innovation in the blockchain ecosystem, while dealing with the risks and challenges? One way is to adopt an incubator approach to change. bitDEPTH MEDIA specializes in establishing a small team, blended with a mixture of our professional blockchain consultants and the agencies departmental managers, which works to scan and prioritize opportunities on smaller scales within an agency for blockchain pilots, and then design the right systems for implementation.



bitDEPTH MEDIA's globally minded staff provides professional CTO and development services to businesses and entrepreneurs throughout the US, Canada, and the Middle East. Operating the technological part of the business, we assist companies to achieve their goals without needing to build an in-house department. For businesses that are ready to build, expand or revamp their current development team, we help formulate processes and solutions for building and managing their tech team.



Offering **TaaS** (*Technology as a Service*) businesses can pick and chose based on their technical needs, from full-stack web, native mobile application development to device management and IT services. We scale to **YOUR** needs.

bitDEPTH MEDIA has been heavily invested in blockchain technology, researching, investing, and becoming involved in seeing the technology receives the appropriate legislation and regulation so our clients can be fully confident in the strength and stability our systems provide.



Not only does bitDEPTH MEDIA plan to introduce legislation in its home state of Michigan, we will be organizing our first blockchain conference, Block Coin Exchange, in the second quarter of 2018. We are dedicated to becoming a leader in blockchain development and remain in the cutting edge of all aspects of the technology so we can confidently provide our clients with the best advice and development available.

# Summary



In an age of information security threats, high speed business transactions, widening global consumer reach, emerging markets, and waning trust in government transparency, it is critical for both public and private organizations to find ways to consolidate system complexity, increase data security, and simplify organizational workflow. bitDEPTH Media is helping organizations by removing some of the complexity and confusion of this new model and showing them how to unlock the potential of blockchain, not just as a new technology, but as a new total business model.

With our highly skilled team encompassed of programming, business, financial, and systems experts, bitDEPTH MEDIA is creating essential blockchain infrastructures, designed to increase security, efficiency, fiscal responsibilities, and system workflows for governments, small/mid-sized businesses, and fortune 500 industries alike.

Let our team of trained consultants answer your questions and begin mapping out how blockchain technology can meet all your organizational needs.



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