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CRYPTO INVESTMENT TIMES

MARCH 2019

HUGO JACQUES

Startup Funding 2019

Blockchain in business

Jerry Witkowicz

WWW.CRYPTOINVESTMENTTIMES.COM

Welcome

Message from the CEO

Thanks to the industry mentors and the community as a whole...

The positive feedback from individuals like yourself as well as the amazing industry acceptance that we have received is awe-inspiring.

https://www.linkedin.com/in/rima-m-0a85b316a/

Rima M.

We are looking forward to your feedback.

Please send in your suggestions to

rima@cryptoinvetsmenttimes.com

HUGO JACQUES

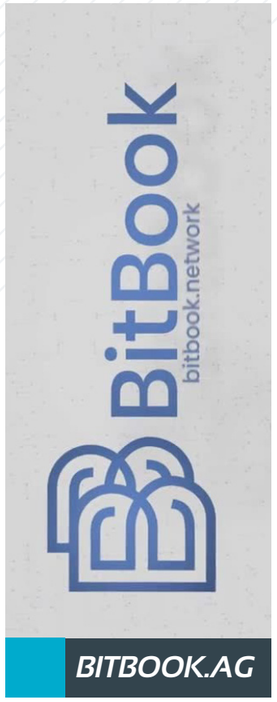
Knight in Focus

https://www.linkedin.com/in/hjacques/

CEO at BlockChain Impact LTD | Seed funding
ICO/STO advisor | Exchange listing
Speaker | Writer

20 years of business strategic consulting experience in corporation, SME and Startups. Specialised in restructuration, crisis management, business product development, growth capital and mentoring.

Hugo's company is participating in 10 ICOs and STOs and has already helped raise 15,000,000 $. His portfolio covers gaming, trading, Financial Search Engine, supply chain, mobile payment system, and hedge funds.



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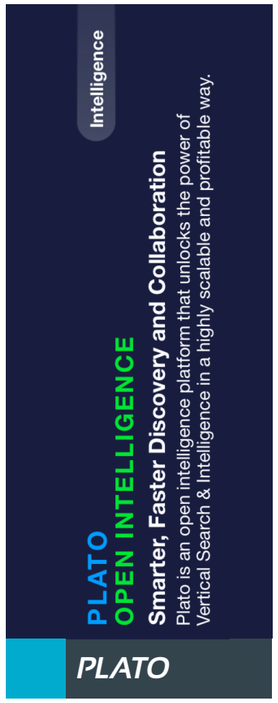

PLATO

BLOCKTRADE

In 2018, the volume of crypto transactions decreased currently impacting the 2019 market. Investors are more cognizant in where they invest their money due to the loss they incurred. Scams, money laundering, and bad quality projects that never successfully deployed created a bad image in the crypto space.

Basically, the hype is over. Venture capital (VC) valuations have been deeply affected by the cryptocurrency bearish market, some even shunned away from the crypto sphere. Most of the startups today will need to get back to square one, needing the support of venture capitalists to sell and support their projects. I do not think the market will recover quickly, with the involvement of regulation implementation, big companies (such as automotive and retailers) and financial institutions, the reputation will take time to rebuild. "Startups are facing big challenges to get funded in 2019 and it is time to get serious".

What should be the first step to get prepared to meet VCs?

In a nutshell: A solid value proposition, an MVP, early adoption, ideally customers with incomes, and a strong customer acquisition strategy for the next 2 years. An MVP is not only a way to show how your product works and attract customers but also proof you are capable with limited resources to deploy a solution.

Today, more than ever, it is a jungle in the crypto world. Your project sounds good, you have a product and you are sure that it will shine in the blockchain ecosystem, yet, it is not enough.

STARTUP Funding in 2019

KNIGHT IN FOCUS

Startups are facing big challenges to get funded in 2019 and it is time to get serious

https://cryptoinvestmenttimes.com/

Here are some ingredients you will need to prepare to face investors:

- Basic ingredients: Good business concept, a strong team well supported, good vision and value proposition, traction, MVP, strong deployment plan with financial projections.

- Special sauce: A true economic/social impact, a disruption. In simple terms, a true functioning and scalable value proposition; adding a token economy layer in your business concept are not enough.

My first advice would be to always review your value proposition even if your product is already in testing. Call a CMO expert (preferably at least 20 years of experience) to effectively maximize your product exposure over your competitors.

You will also gain a better understanding of your product, acquire more assurance to explain to people, investors, and, more importantly, obtain early-stage feedback that will guarantee you to save money. Use PR expert, friends, and even take crash courses for any social media platforms but you will need to invest in an expert for media, marketing and community management. Expertise with their experience in this domain will help accelerate your product/service and also avoid some pitfalls.

Do your MVP that does not have to be the final product but can show to the VC that it is working. This is the best way to get funding. The biggest challenge, how to get the money to create your WMVP? The chicken and egg equation... Investors want to see your MVP in order to provide funding but you do not have this money. Be aware that you will be judged by your capacity to leverage your resource. Many solutions exist... Equity sharing, your family support... there is always a way.

What is the ideal toolbox to prepare before meeting any VCs?

Well, the first block is the traditional product/market fit documents with a strong team. A deck for a pitch, an executive summary (2 to 3 pages) that you can send by email after a pitch or a meeting, a business plan (20 to 40 pages), customer strategy acquisition and financial projections for the analysis. I can't emphasize enough about the importance to be clear, concise and structured. Investors want to see numbers, customer acquisition and deployment roadmap.

The second block is your token economy or "tokeneconomic mechanic". You have to clearly explain what the tokens usage and value: role, features and purpose. Describe what is the key objective of your DAO, its value creation, and how you are going to make it happen and the relation between user actions, consequences of their actions on the operation platform and outside the platform.

The third block is the communication plan.

How do you will deliver transparency to be aligned with regulation and investor rights. Communicate your progress, status and major decisions. This could include the technology audit of your software code. This is an important part because smart contracts are easily the weakest link in the process and you do not want to see your platform hacked. All investors deserve transparency by the time they put money in your project.

Finding a VC is a race and some startups are spending a lot of energy and money for this holy grail quest. Do you have any recommendations?

I truly recommend finding someone to help you, a mentor who can support the document developments and connect you to a VC. If you have to pay upfront for just being introduced to a VC by a middleman, stay away from such organization! You need to seek out support by professionals taking the same risk as you (only when your company is funded that the professional will be paid), paying them a commission if they bring you a VC or % to support you along the project or per hour if this is only mentoring.

Also setup a real strong team with appropriate knowledge (Blockchain developer, an expert in the domain of your business, etc.) and strategic partnerships. To be supported by "big names" is a card to be won!

Think big and beyond the STO. Your objective is not only to raise funds but make your business scalable and profitable for you and the users for the long term. Acquisition and retention are mandatory.

After the lessons learned from 2018, regulation in 2019 is inevitable and this is actually a good thing. It is time to protect more investors and the sound businesses and implement a good structure, that will not only make the blockchain ecosystem stable and ideal but, it will bring more investors in the arena and therefore more trust and awareness.

We invest, venture build, and consult leading blockchain companies around the world.

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>>>>>>

DIGITIZING THE OIL AND GAS INDUSTRY

Using Blockchain Empowered Technology

Garima Singh

Oil and Gas sector is enormous, with a number of players, including large companies, providers, governments and regulatory organizations. The presence of a number of stakeholders presents opportunities for optimization, efficiency and transparency. The Blockchain is a new technology that has disrupted the functioning of many industries and is poised to enter the oil and gas industry. The oil and Gas companies can reduce their costs and efficiently manage their supply chain using the Blockchain technology.

Here are a few scenarios, where Blockchain Technology can be integrated into the functioning of Oil and Gas industry and the benefits of doing so. Commodity tracking and trading

Crude oil is one of the most traded commodities across the world. Though the world is looking towards renewable sources of energy, crude oil is still the most sought after source of energy. Crude oil is refined to produce gasoline, diesel, lighting fuel and a lot of other petrochemicals that are used to cater to most of the world's energy requirements.

Companies along the supply chain of oil and gas use proprietary systems to track and manage the reserves and record data to perform the trades. These outdated and centralized systems are both expensive and difficult to maintain. They are also vulnerable to manipulation, corruption and hacking.

Blockchain technology can be effectively used to make commodity trading and tracking easier. The Blockchain ledger is a decentralized, triple entry system of bookkeeping, which allows recording and tracking of different transactions in real time. Blockchain technology aids in providing a stable and transparent system for commodity trading. The core tenets of Blockchain technology are security, immediacy and tamper-resistance.

The Blockchain smart contracts aid oil and Gas companies to identify genuine buyers and to make sure that all the obligations are completed in a timely manner. Blockchain technology helps to increase the transparency in contracts and develop trust among different players in the supply chain.

Adopting Blockchain technology can help companies in oil and gas sector to

- Reduce the costs associated with maintaining and securing a proprietary trading system and costs of labour.
- Track and manage the reserves efficiently and reduce lead times
- Improve the efficiency of data visibility and data management
- Reduce settlement delays
- Help in faster resolution of disputes
- Make faster cross border payments

Use of Blockchain in the three streams of Oil and Gas Sector

The Oil and Gas industry is split into three streams.

- Upstream, which includes the elements of the industry related with exploration and extraction of resources.
- Midstream, which includes the elements involved in storing and transporting the resources.

A Serial Entrepreneur and a seasoned IT professional with a rare combination of sound technical knowledge and business acumen. Co-founder of three IT organizations, Bitviraj technology private limited Niza Global Solutions and Viraj Consultancy Services. Leading these companies to a high and sustainable growth path, at the same time also helping various other organizations as technical/strategy consultant. As She provides a complete roadmap to develop a feasible and practical business model that benefits all the stakeholders, promoters, investors and customers.

TITLE SEGMENT

- Downstream, which refers to the elements involved in refining the resources into different finished products, marketing the finished products and making them available to the end users.

There are a number of player, including large integrated corporations with various departments, small crude oil sellers and other entities. It is a difficult task to coordinate the multiple players in the supply chain.

Blockchain technology can be effectively used to coordinate the different players of the oil and gas supply chain. The smart contracts of Ethereum Blockchain can aid in the optimization of resources, improve communication and help in the resolution of disputes.

Uses of Blockchain in Upstream Oil and Gas

The upstream of the oil and gas sector contains the maximum number of stakeholders, which includes survey companies that conduct the geological and geographical surveys, drilling companies, contract companies etc. Data transmission and management across these stakeholders is paramount for the profitability of oil and gas companies. Blockchain technology can help in effectively integrating the hundreds of players in the Upstream Oil and Gas. The smart contract system of Blockchain can assist in the proper execution of obligations by the different parties along the supply chain. The technology can also help to speed up the process of reconciliation and speed up the payment system. Companies can use Blockchain empowered tokens, which are valued on the basis of real assets to make faster payments.

Uses of Blockchain in Midstream oil and gas

Midstream oil and gas consists of companies involved in the transportation of crude oil. The transportation is done through pipelines, trains, barges, vessels and tankers. Coordination among the different players in the mid-stream is essential to reduce the transportation times, reduce wastage of resources and reduce the costs. Apart from smart contracts and faster reconciliation times, Blockchain technology can be used for inspection of pipelines and to coordinated data. The pipelines used to transport oil and gas are thousands of miles long.

The midstream companies, involved in transportation of resources generally contract the task of inspection of these pipelines to several companies. Blockchain technology helps to co-ordinate the work of these companies.

Each contractor can stake assets of value to declare that the portion of the pipeline assigned to them is safe. Midstream companies can easily organize the data and make it available to authorized parties and regulatory bodies.

Uses of Blockchain in Downstream Oil and Gas

The downstream oil and gas consists of refining, marketing, and transportation and distribution of these final products. Blockchain smart contracts and ledger can be effectively used in the downstream Oil and Gas to optimize reconciliation and improve co-operation and trust among different players. Oil and gas companies can also use Blockchain technology to enhance consumer loyalty by providing Blockchain based rewards programs to the end consumers of refined petroleum products. The Blockchain smart contracts can be used to reduce the costs and enhance the consumer experience.

Blockchain technology will help the companies in the Oil and Gas sector to reduce costs and wastage. It will help to increase optimization and aids in data transparency, which ultimately results in reduced costs for the end users and increased profits for the oil and gas companies.

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How Blockchain is Revolutionizing Food Supply Chains (Part 2 of 2)

Mansoor Madhavji and Aly Madhavji, Partners at Blockchain Founders Fund

In the February 2019 edition, we discussed food supply chains and "Is the Food Supply Chain Broken?". We showed key examples of outbreaks across North America, Europe, and Asia. Since you have been waiting to know more since the last edition, let's dive into how companies are working to solve these issues and how blockchain is playing a role.

Which Companies are Innovating the Food Supply Chain?

JD.com (Jingdong), China's second largest e-commerce retailer, is using a Hyperledger fabric adaptation to give consumers information about the products they are buying. Currently, the platform is live and tracking beef from Kerchin, a Mongolian supplier; however, plans to pilot the technology with alcohol, food, tea and pharmaceuticals are in development. When a customer orders a cut of beef, they can scan the QR code to display information about the specific cut of meat. The supplier gives each cow a serial number and information is scanned to that serial number throughout the cow's lifespan and through to the customers acceptance of the delivery. In the app, a customer can see serial number, transaction number, breed, age, weight, diet, veterinarian, farm, the part of the cow the cut of beef is from, and when and where the cow was slaughtered, processed, packaged, and stored.

Alibaba, China's largest retailer, has a similar beef on the blockchain project, tracking beef originating from Australia.

TITLE SEGMENT

Walmart launched a food safety collaboration center in November 2017 in Beijing. Partnering with Tsinghua University and IBM, Walmart launched a pilot tracking Chinese pork through its supply chain, recording the complex commercial networks of producers, processors, distributors, grocers, and the logistics between them. Among other information the system tracks farm origins, factory data, expiration dates, storage temperatures, and shipping information. It reduces the time for processing shipping containers, paperwork, and risk of tampering or fraud while in transit. Walmart initiated a second trial with a more complex supply chain of sliced mangoes originating from Central America. Mangoes are grown by small farmers, transported, washed, packaged, transported to the U.S., warehoused, transported to a supplier, sliced, packaged, then sent to Walmart stores. Blockchain cut down the time to trace the mangoes to the farm it was grown on from 7 days to 2.2 seconds.

Data Ownership & Intellectual Property

Another major challenge for this type of collaborative platform is data integrity and ownership. In all these pilots, the supply chains are relatively small involving a handful of information sources. In the case of JD.com and the beef supply, only Kerchin and JD.com can input and modify information on the blockchain. In more complex products that involve many more inputs and in larger distribution networks, there are more players involved and more cooperation is required. For that cooperation and traceability to happen across multiple players, data must be structured and in a standardized format between the participants.

Not all companies want to share their data as it can shed insights to their business practices and give rise to Intellectual Property (IP) threats or competition. IBM and Maersk, the largest container shipping company globally, launched a blockchain solution for the shipping industry, billed as an industry platform in which they ultimately own the IP. The platform failed to attract participants. It's clear that companies will need to be more collaborative with shared governance to gain participants for the industry platform, as each participant has some risk of losing competitive advantages and IP due to the transparent nature of blockchain. However, if the participating members were to all share the IP, they can gain substantial benefits from the collaboration and from building consumer trust.

Addressing the "Garbage-in" Problem

One thing that blockchain doesn't solve is the "garbage-in" data problem. If misleading information is entered on the chain, all downstream participants would use that information. In the case of the falsified labelling of beef in Europe, it's not likely that blockchain would have prevented the issue unless there was a tamper-proof process of inspecting DNA at various points in the supply chain. Cryptographic Signatures make auditing the ledger and pinpointing theW source of the issue easier, in the case of labelling fraud, deducing where along the chain it occurred would be quicker and so would identifying the offenders. In a transparent system, where all information is being entered and tracked, including the false information, it is easier to identify the source of the falsified records and to have clear evidence to hold those offenders accountable.

Walmart and IBM have created a consortium which includes Dole, Unilever, Nestle, Swiss Water, Tyson, Kroger, Carrefour among others. The system is modular and can integrate data sources from Internet of Things (IoT) sensors to record temperature, quality, shipment and delivery dates, and safety certifications among others. With cutdown on traceability times, businesses will improve their ability to isolate and ringfence an outbreak by stopping sales of the potentially affected items and notifying the appropriate retailers. Companies will be able to issue better product recalls, as they can identify and locate the products likely to have been affected more precisely and avoid costly losses from overly broad recalls. Additionally, there is more transparency of food certifications such as organic and fair-trade labels, quality and freshness, and identifying food waste hotspots along the chain.

A Paradigm Shift

Much of the decentralization sentiment that propelled the blockchain community was the distrust of large organizations. However, it is exciting to see that large industry players are cooperating and are standardizing data from their systems to be interoperable. In part, they are starting to embrace a governance structure that allows them to share their data and manage access rights to partners, while retaining control of their data.

Although globally, the industry hasn't reached a point where consumers can scan food at the grocery store and see the entire lineage of the product, like you can with JD.com beef coming from Mongolia, it is motivating to see that competitors are working together to win back consumer trust. Imagine how blockchain will revolutionize supply chain over the next decade, given that in such a short timeframe, these initiatives are already having a clear and transformational impact.

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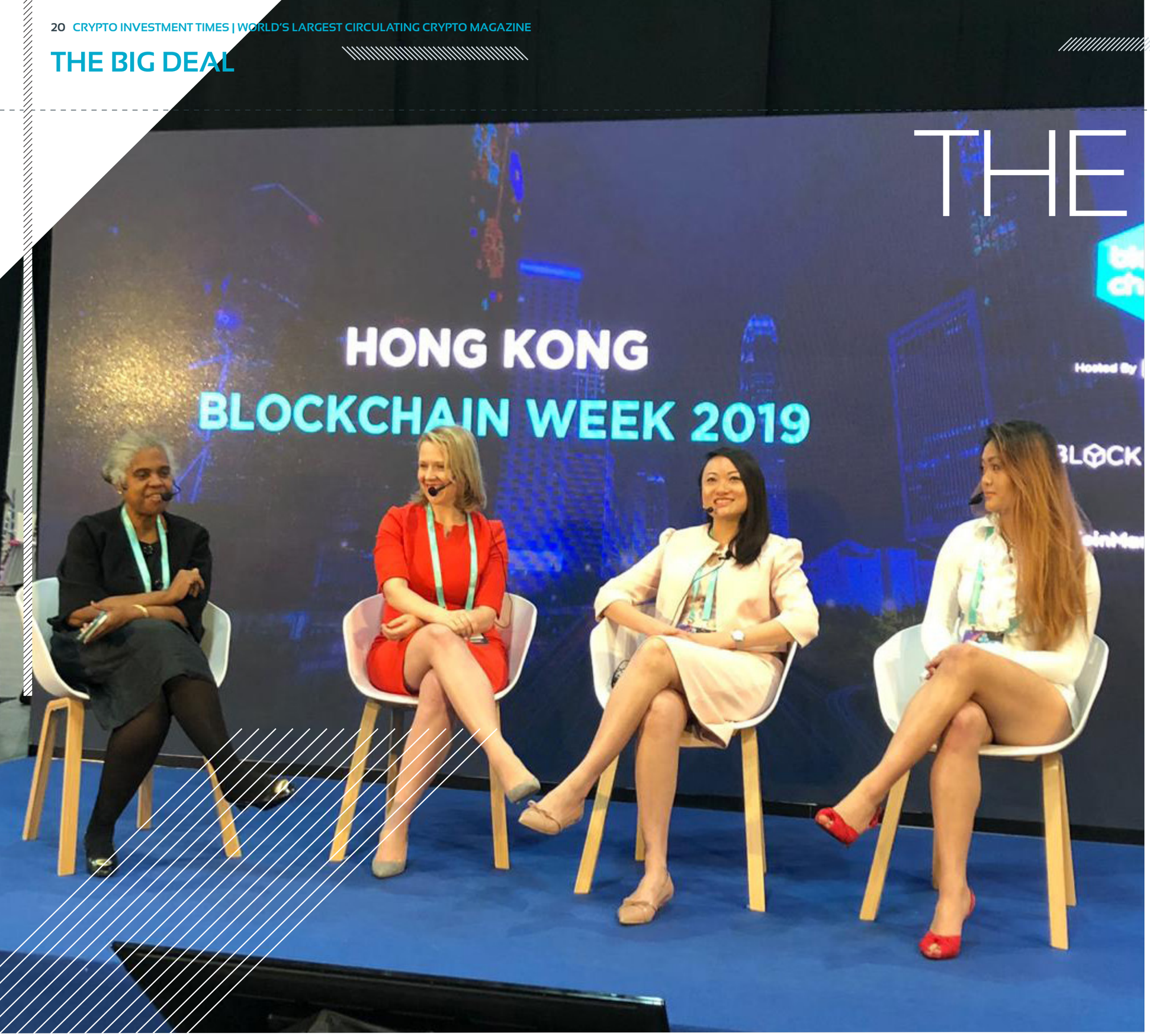


THE BIG DEAL

No Bear Scare for Hong Kong Blockchain Week

The first ever Hong Kong Blockchain Week (HKBCW) drew over 4,000 people to Asia's financial center to push forward the development and adoption of blockchain.

"Crypto and blockchain are at a very important inflection point. The reality is that the technology is growing," says Juwan Lee, the CEO of the NexChange Group, the driver behind HKBCW. This all came into sharp relief at HKBCW where two global event powerhouses, Block O2O and Hybrid Summit, joined forces to host over 175 speakers and the world's blockchain elite.

Serious Business

It wasn't all hype. Leading speakers tackled serious issues. Cambridge Analytica whistleblower and founder of the Digital Asset Trade Association, Brittany Kaiser, is supporting the #ownyourdata campaign and working with American legislators to protect consumer data. She says, "Before our wallpapers start producing data about how we

use our living room, we really need to start thinking about digital asset legislation in a much more serious manner."

Dr. Larry Sanger, the co-founder of Wikipedia, was a huge draw given he created the one technology that everyone present uses every day. But he shocked the crowds when he took the stage and blasted Wikipedia development after he left the project, leading him to back a blockchain based alternative, Everipedia.

Sunnier views

Regulators aren't usually known for their razzamatazz, but there is one exception in the world of global finance. Former CFTC commissioner, Bart Chilton, aired a special edition of his RT Boom Bust show about creating confidence and clarity through regulation lending to the mass adoption of blockchain. "From smart contracts to use cases in voluminous sectors of finance, healthcare, supply chain, agriculture, voting, insurance and title, audits and compliance, global identity, it's a vast world ready for us dreamers."

Charles Hoskinson, CEO of IOHK and Founder of Cardano, is still confident about creating a new financial reality with no intermediaries. "Cash is dying, and we are increasingly moving towards algorithmic governance."

Ran Neuner, host of CNBC Crypto Trader show, was on site to get the pulse of the industry. His special edition of the show recorded at Hong Kong Blockchain Week can be found along with event presentations at NexChange's Youtube channel.

Juwan Lee, NexChange Group Chairman & CEO, welcomes guests speakers, media partners, and 4000+ attendees to Hong Kong Blockchain Week.

THE BIG DEAL

Inaugural event successful despite bear market

Brittany Kaiser speaking on stage at Hong Kong Blockchain Week about owning your data and protecting your digital rights

Charles Hoskinson, CEO of Input Output (IOHK) and Founder of Cardano

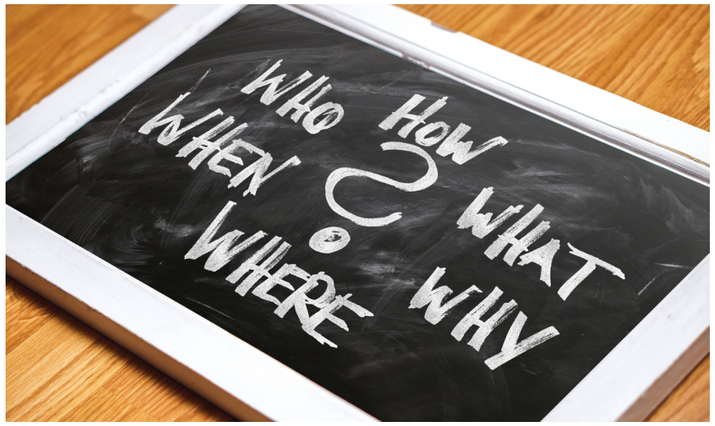
JERRY WITKOWICZ

CEO and Co-Founder at BenchMrkPro and 180FIND

Blockchain Tutorial for Business Executives

Gananoque, Ontario, Canada

You may be developing the best solution on the market but if you don't have a solid sales & marketing plan, you're missing opportunities to impress your ideal customer with the amazing value of your innovative product. And your bottom line is taking it on the chin.



Blockchain Overview

In 2018, the word blockchain became a very popular term which continues to be discussed today and the terms blockchain, bitcoin and cryptocurrency are often used synonymously and quickly became household names. Everyone talked about it but very few people understood what these terms actually meant and how they could impact our personal and business lives.

To help readers understand what blockchain is and what value this technology holds for us personally and in business, we need to separate blockchain technology and cryptocurrency. Blockchain is a new technology and bitcoin was its first use case of cryptocurrency that utilized blockchain technology. They essentially were born together. We may cover cryptocurrency in a separate tutorial in the future.

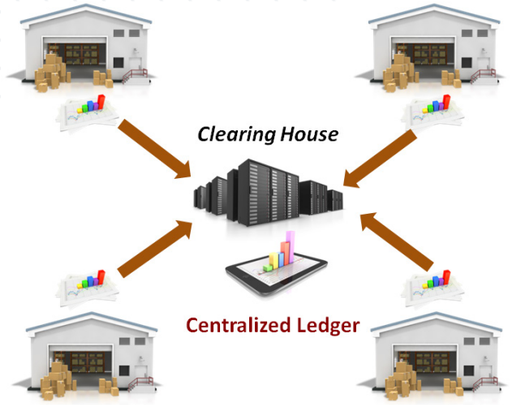
Fundamentally there are two types of blockchains public and private. In a public blockchain, anyone can connect to the blockchain and with an appropriate computer and software and become a blockchain server node. No permission is needed. In a private blockchain which is typically owned and managed by a company or group of companies, permission is needed to join the private blockchain. This tutorial focuses on private blockchain.

The focus of this tutorial is to help readers understand blockchain technology from a practical uses scenarios and how it might deliver value in the future. The scenarios described in this tutorial are visions of what is possible to build on blockchain. Our hope is that technology vendors will share these visions and adopt similar forward looking plans and seize the opportunity to develop practical applications that will revolutionize how we conduct business in the future.

INSIDE INDUSTRY

What is Blockchain?

Blockchain is a new technology intended to reduce costs and introduce new capabilities by streamlining and speeding up multi-party business transactions and processes. Today each participant in a multi-party transaction records transactions in their own ledger and reconciles it with information provided by the other parties. This requires significant manpower, is prone to errors and is time consuming. Transactions such as banking or stock trading where thousands of small transactions are involved this requires clearing houses Fig 1.0 to validate and process each transaction, assure security and prevent fraud.



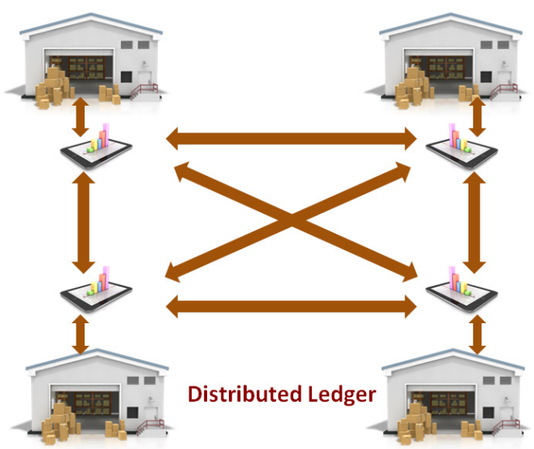
Blockchain introduces a new way for parties which conduct business activities together to share the same transaction ledger thus reducing the duplication of effort and the cost of processing. As illustrated in Fig 2.0, in blockchain all transactions are recorded in a single ledger which is distributed over blockchain network and is shared with every business partner involved.

For each transaction to be recorded in the shared ledger, the transaction information is written into a transaction data block that is uniquely identified, sequenced, secured and validated by all parties involved. In blockchain, each business party involved in shared business activities is represented as a node on the blockchain network.

How it Works

To illustrate how blockchain could work in a business scenario, let's illustrate functionally how a blockchain based solution would work in an order creation and processing scenario.

When a business partner issues an order, new transaction is created on the issuer's node and is packaged into a data block that includes critical information about; identity of the partner, order information, identity of the block, and special sequence number of the block. This new data block is now shared with all nodes (partners) on the network and all nodes (partners) must agree (provide consensus as in Fig 3.0) that this transaction block is valid before it is recorded into the shared ledger on every node. In private blockchain it can be designed that each partner sees only the part of the ledger/block that they are allowed to view and/or alter. This and the fact that the entire block is encrypted keeps the whole process secured. Any subsequent transactions related to this order e.g. filling the order, shipping the order, payment, etc... that are created by other partners are also packaged into data blocks and distributed and validated by all nodes. Each data block is then connected with the one before and after it creating a chain of transaction blocks (the entire history of the transaction), hence the name blockchain.



Once each transaction block is written into the shared and distributed ledger, it is permanently recorded becoming part of the history of the transactions and it cannot be altered or deleted by anyone. This feature prevents fraud by one of the parties. If there is a need to modify an issued and recorded transaction, the modified transaction becomes a new transaction that will be created and will follow the same validation and sharing process.

In this scenario, the key benefits that blockchain technology introduces include:

- Reduced transaction complexity - The single shared transaction ledger simplifies the complexity of monitoring, reconciling and processing business transitions that would normally be generated and managed by individual business partners in multiple disparate ledgers

- Increased accuracy - The unique consensus validation process creates almost an instant audit and validation of all transactions thereby increasing the accuracy of transactions between business partners

- Reduced effort – Transactions are validated, correlated and approved automatically and in real time requiring little to no human effort to process them other than entering changes/updates.

"Time to make a chane Invendit aspella bori-busda atet ella quodi"

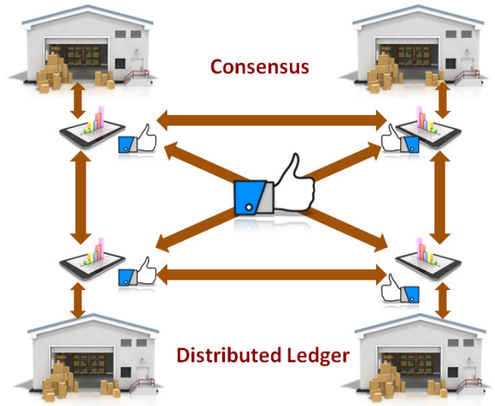
- More tamper proof – By distributing a shared ledger to all nodes on blockchain network, reduces the risk of transaction tampering and fraud. Tampering with recorded transactions will alert all business nodes and partners

- Improved security - Reduces the risk of data breaches and theft. Hackers would need to break into all nodes on the network to breach and modify recorded data as a change/hack of one node or several nodes will be discovered by the rest of the nodes in the network during the validation step.

Potential uses of blockchain technology

The distributed ledger based blockchain technology introduces the potential to conduct commerce in a uniquely different and more efficient way than today's traditional centralized systems. And although blockchain technology is still in its early stages of evolution and maturity, there are many visionaries who are creating very interesting out of the box thinking and new visions on how blockchain will revolutionize our commerce and our personal lives.

Today there are already number of companies which are experimenting with blockchain technology in areas such as; supply chain management, insurance, asset tracking, insurance, auto industry, financial transaction processing to name a few.



Let's explore at high level some examples of potential uses of blockchain technology in different business verticals. Let's imagine how these businesses could operate differently using blockchain technology.

4.1. Construction Industry

Today commercial and residential construction industries face many logistical challenges that often impact the bottom line costs and timelines. In this industry where multiples of independent contractors and suppliers are involved in a single project which relies on timely and on budget deliverables, managing the sea of many moving parts is always a challenge. More often than not, many projects fail to be completed on time and on budget.

Imagine a future where every contractor and project owner can visualize their projects in what their projects will look like in days and weeks ahead and being able to predict with great

INSIDE INDUSTRY

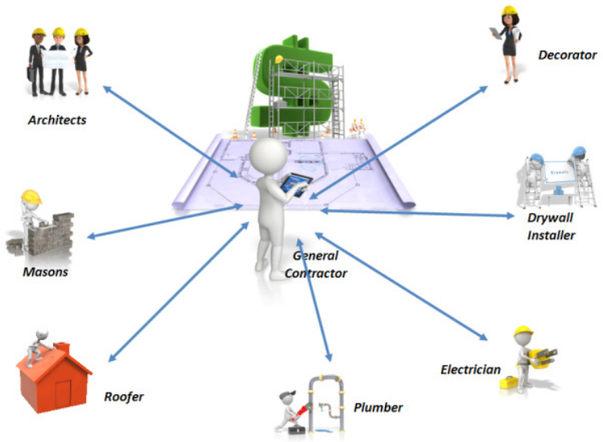
accuracy what will happen to their projects. No matter how complex their projects are, they can ask why delays are coming, what is the problem and be able to take action to resolve problems before they impact the project. .

4.2. Single Renovation Project with Multiple Contractors

Consider a house renovation project scenario illustrated in Fig 4.0 and how it might be managed today. If there is a general contractor assigned to this project, this individual has to manually coordinate all renovation activities with each independent contractor such as painters, carpenters, decorators, plumbers, electricians, long list of suppliers, cabinet makers, etc.... to determine the status of work activity, adjust for delays, modify schedules, track materials and costs, resolve unexpected problems, update each contractor on any changes and update the overall project plan to ensure that all renovation activities are completed on time and budget.

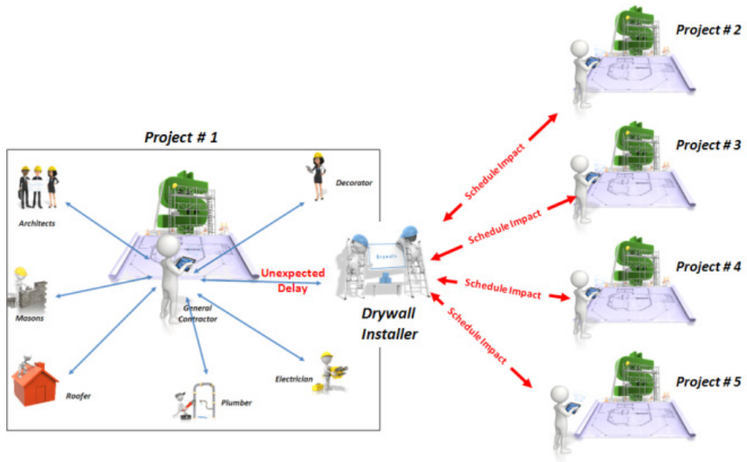
Contractors,tradesandspecialistsworkindependently. They exhibit a wide range of organizational skills and often lack good information on the status of work activities performed by other parties in the same project. It's not unusual to find a drywall installer show up at the job site to put up dry wall only to find out that the work inside the walls has not been completed. This is disruptive and costly to not only the overall renovation project; the drywall contractor now has to reschedule his/her work on other projects he/she is involved. This delay now creates a ripple effect that will cause delays for other subcontractors who are working on this renovation.

Let's consider this drywall installer scenario that just discovered an unexpected delay. As illustrated in Fig 5.0 below, a single drywall installer will typically engage with many projects that run concurrently. When a dry wall installer finds out that the work inside the wall has been delayed because the electrician did not complete his work on time and he didn't know this, the ripple effect of schedule changes begins. A delay in "Project #1" will cause delays in commitments this

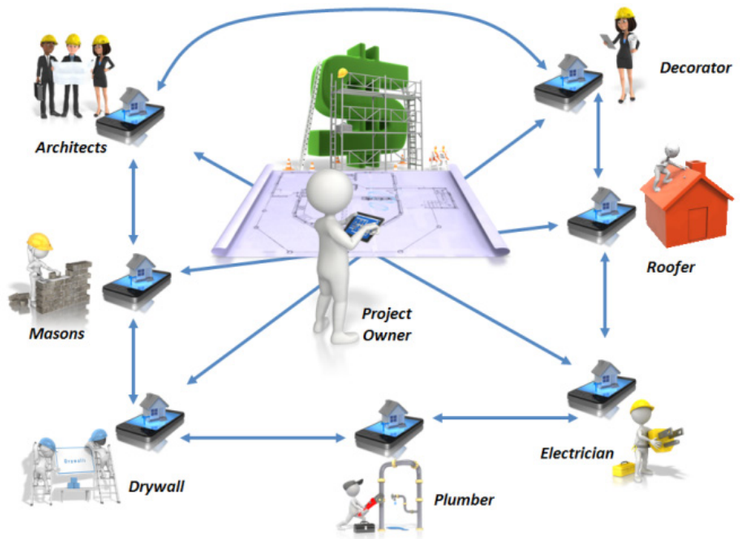


subcontractor made in projects # 2-5.

When one factors in the number of subcontractors and suppliers involved in a renovation project, it is easy to see how quickly things can get out of control. Most common problems that can be resolved include; other contractors didn't complete their activities on time and didn't report it, unexpected difficulties



discovered and weren't reported, contractors didn't show up to complete their work because they were delayed on other jobs, and the list goes on. This is further complicated by change orders that are common. A small change may require bringing back a subcontractor on an unscheduled task causing yet another ripple effect for this and other projects. Change orders account for most project cost overruns



which can easily add up to 10% or more of the project. Most of us at one time or another have experienced renovation or construction project delays and cost overruns and understand the frustrations well. There are always good explanations for why delays happened but it's usually too late to prevent the ripple effect delays and recover lost time and costs. And inevitably, renovation projects are delayed and run over budget.

Consider the same renovation project scenario but one that is managed using a blockchain based solution as illustrated in Fig 6.0. Imagine that every contractor who is involved in the renovation project has the same status view of all renovation activities for that project on their Smartphone or Tablet application. Using blockchain distributed ledger, every contractor receives instant updates on scheduled work activity status and share the same project view. When a problem is discovered by one contractor, that contractor issues a new transaction/ blockchain entry indicating what needs to be done to resolve the issue and if he is going to resolve it and finally, he states the date the work will be done. Now blockchain solution distributes this new transaction to all parties involved. Using consensus mechanism in this distributed ledger, all recipients validate the proposed change, accept it or suggest additional modifications. This collaborative process happens in minutes and when accepted by all.

Unlike in today's scenario where a drywall installer shows up to cover up the walls before the electrician or plumber has completed their work inside the wall, with blockchain solution every contractor would know instantly when the electrician and plumber have completed or delayed their work. Instead of showing up at the renovation site before preceding work has been completed, they can now effectively plan their work to be at the renovation site at the right time to complete their work.

Imagine that every contractor can now visualize what their project will look like in few days or weeks. Sharing the same ledger that shows real time status of changes, each contractor and project owners can predict with great accuracy the status of their project no matter how complex the project is and take actions to keep the projects on time and cost. In this scenario, there is no need for central function or a general contractor to follow up with each contractor and supplier to track deliveries or to discover status. The project owner which could be the home owner could have complete real-time status of all work activities, costs, problems and their resolutions and renovation progress.

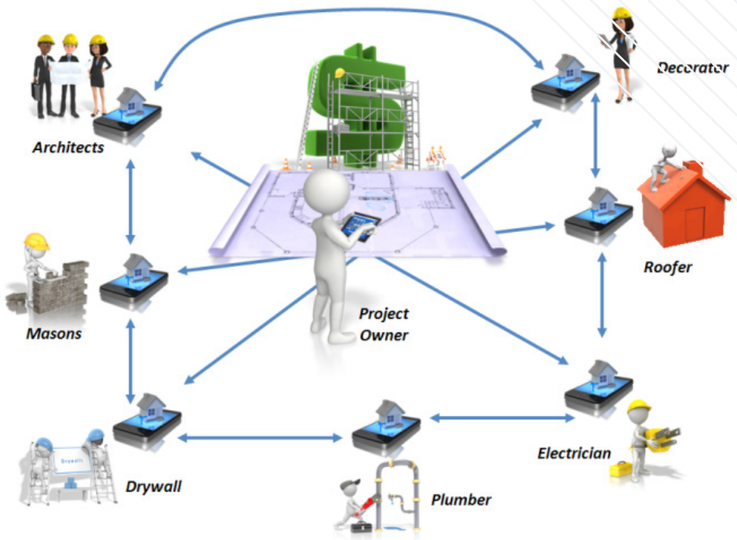
4.3. Single Contractor with Multiple Projects

Let's expand the single project scenario to illustrate how blockchain based solution could help a single contractor like the roofer to manage multiple projects he is involved in. As illustrated in Fig 7.0, a single roofer has 4 roofing projects to work on during a month where schedule is tight with little spare time between projects. This contractor will make commitments to his clients based on the starting schedule and changes in one project will impact his work schedule in all remaining projects.

Imagine a blockchain solution that serves single contractor who works on many projects like the one in Fig. 7.0. A single contractor like the roofer installs a blockchain application on his smart device and that application enables him to manage (interact

INSIDE INDUSTRY

with) all other individual projects that he is involved with using a single dashboard. And each project



that he is involved with is already managed by its own blockchain application like the one illustrated in Fig. 6.0. This single dashboard enables the roofer to connect and synchronize his entire work availability schedule with all of his other projects he is involved with. When this roofer assigns specific work days to Project # 1, the remaining available days are now visible to projects 2 – 4. When the schedules for projects 2-4 are created, this roofer can assign with certainty his availability to other projects as needed and be able to manage his time much more effectively.

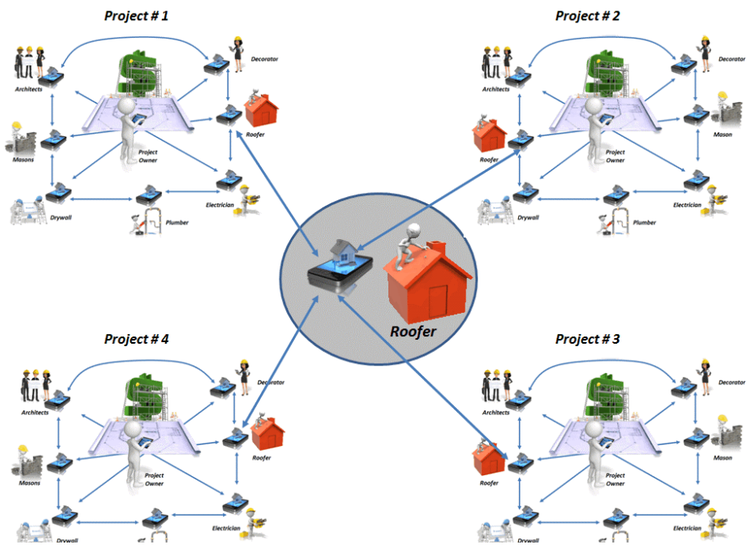
If the roofer completes his work on Project #1 earlier than planned, he adjusts his availability and makes it known to projects 2-4 which can take advantage of the new availability and add that to their project. If the roofer is delayed on Project #1, this delay is communicated to other projects which are able to determine the impacts on their schedule and are now able to take action before it is too late. Some may chose to modify their schedule and others may seek to find alternative contractors.

Unlike today where the roofer does not show up in Project #2 on the expected day because he was delayed in Project #1, with blockchain solution in Fig 7.0, information about delays or even faster progress is available from the roofer in minutes. Project #2 can react to roofer's delays and minimize the impacts on its schedule.

4.4. Large Construction Projects

Now imagine managing a much larger construction project like construction of a major high rise office towers, shopping malls, large residential subdivisions and the list can go on. Managing all individual activities performed by all parties involved is done today but it is not a simple or is always an effective process. The complexities of such projects are hundred fold greater than in a simple house renovation. The opportunities for delays and cost overruns are significantly higher and delays and cost overruns frequently happen.

Imagine if a blockchain solution described above



was used to manage mega projects where there are hundreds of contractors, suppliers, specialists and trades involved. The opportunity to unite all of their activities under a single and shared ledger project view that is updated in real time by all parties involved and is shared with all parties involved, would revolutionize the way major construction projects are managed.

Being able to know in real time the status of project activities, managers of major projects would be able to react to problems, delays, and unexpected surprises in real time and resolve them before they impact the project cost and timeline. The parties involved would be able to help each other resolve problems so they can complete their work and avoid costly delays.

Mega projects that would use blockchain based solution would realize major benefits which would include:

- Construction completes on time and budget
- Improved quality of constructions
- Tenants move in on schedule
- Rental revenue starts on time
- Reduction in staff needed to manage the project

The possibilities for uniting large disparate and complex work groups and activities are endless with blockchain based solutions. Uniting such complex operations under a single digital view is a goal of every large project. Blockchain technology framework enables small and large organizations to develop specific applications for such purposes.

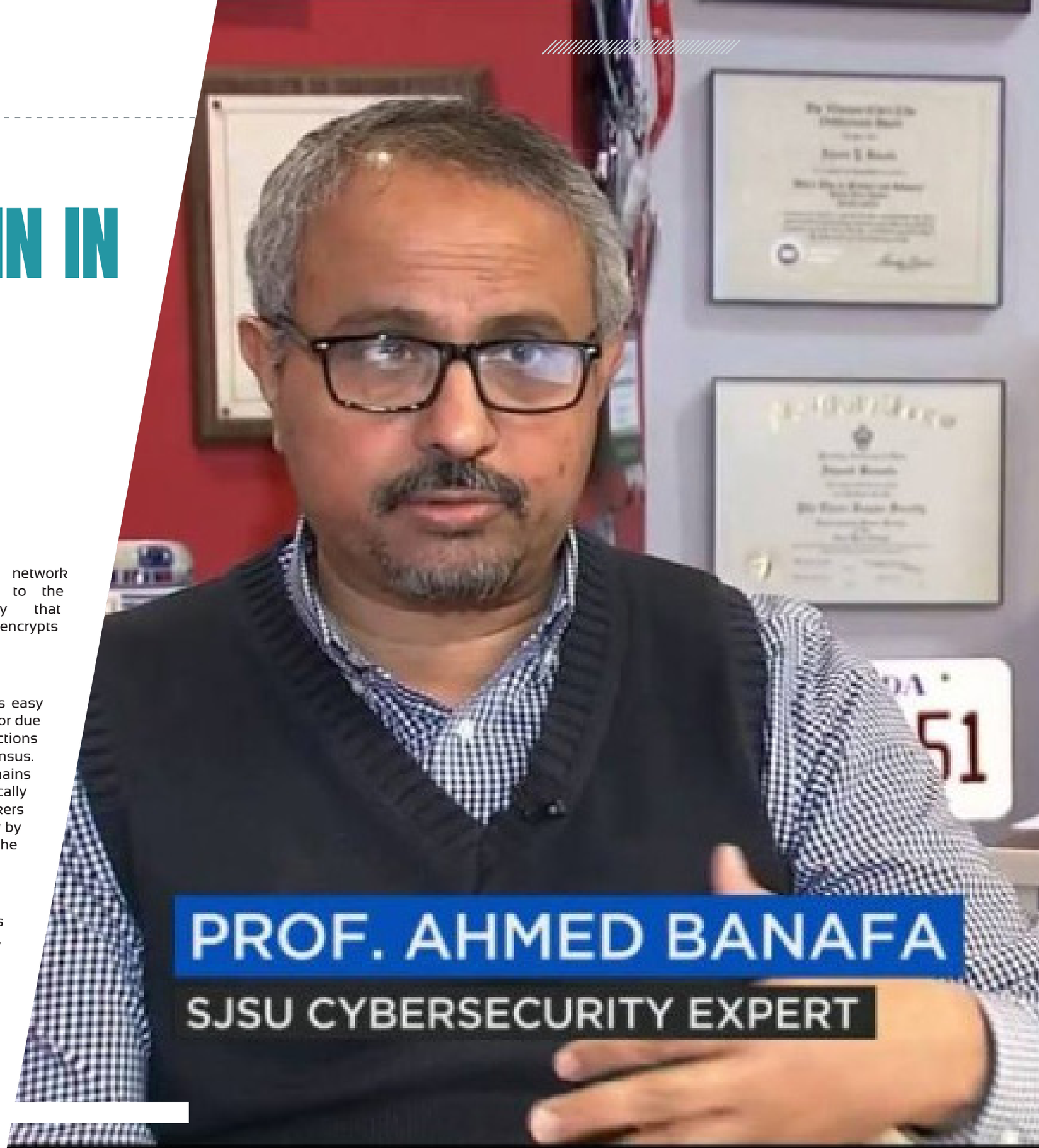
Need More Information?

If I haven't answered your questions, please contact me and I'll be happy to explain further. If you have any questions, I'll be pleased to help you. I know that as a business executive, you may find yourself overwhelmed with online information and technical terms. Blockchain is very new and it does hold considerable value but perhaps not for everyone at least not yet.

Jerry Witkowicz

USING BLOCKCHAIN IN CYBERSECURITY

Ahmed Banafa
No.1 Voice to Follow in Tech & influencer.
IoT-Blockchain-AI | Author | Keynote Speaker



With the fact that cybercrime and cyber **security attacks hardly seem to be out of the news these days and the threat is growing globally. Nobody would appear immune to malicious and offensive acts targeting computer networks, infrastructures and personal computer devices. Firms clearly must invest to stay resilient. Gauging the exact size of cybercrime and putting a precise US dollar value on it is nonetheless tricky. But one thing we can be sure about is that the number is big and probably larger than the statistics reveal.**

The global figure for cyber breaches had been put at around $200 billion annually.

The main advantages of blockchain technology for cyber security are the following:

Decentralization

Thanks to the peer-to-peer network, there's no need for third-party verification, as any user can see network transactions.

Tracking and tracing

All transactions in Blockchains are digitally signed and time-stamped, so network users can easily trace the history of transactions and track accounts at any historical moment. This feature also allows a company to have valid information about assets or product distribution.

Confidentiality

The confidentiality of network members is high due to the public-key cryptography that authenticates users and encrypts their transactions.

Fraud security

In the event of a hack, it's easy to define malicious behavior due to the peer-to-peer connections and distributed consensus. As of today, Blockchains are considered technically 'unhackable', as attackers can impact a network only by getting control of 51% of the network nodes.

Sustainability

Blockchain technology has no single point of failure, which means that even in the case of DDoS attacks, the system will operate as normal thanks to multiple copies of the ledger.

Integrity

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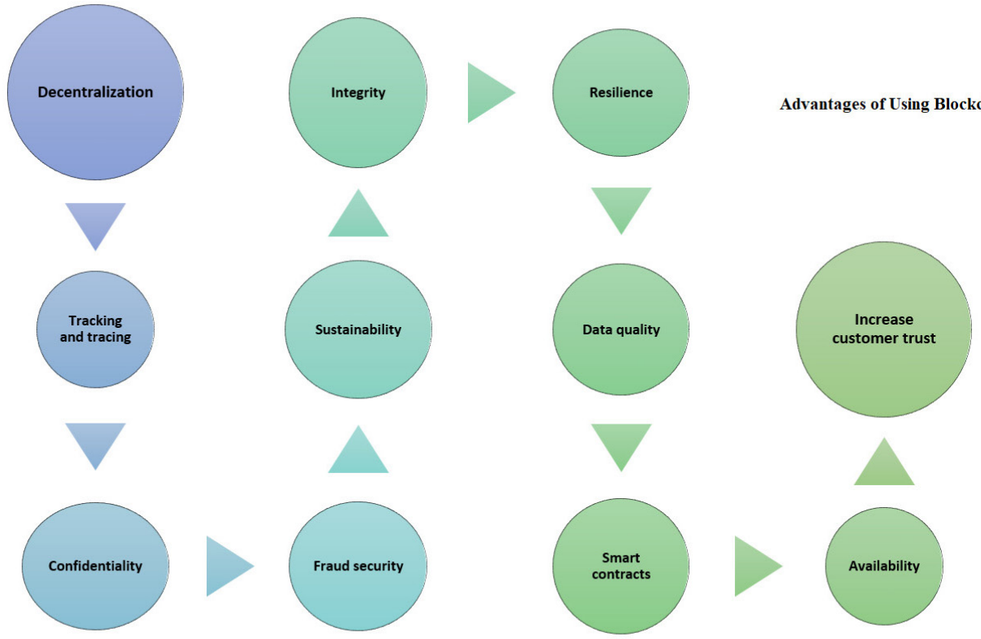

Advantages of Using Blockchain in Cybersecurity

The distributed ledger ensures the protection of data against modification or destruction. Besides, the technology ensures the authenticity and irreversibility of completed transactions. Encrypted blocks contain immutable data that is resistant to hacking.

Resilience

The peer-to-peer nature of the technology ensures that the network will operate round-the-clock even if some nodes are offline or under attack. In the event of an attack, a company can make certain nodes redundant and operate as usual.

Data quality

Blockchain technology can't improve the quality of your data, but it can guarantee the accuracy and quality of data after it's encrypted in the blockchain.

Smart contracts

These programs ensure the execution of contract terms and verify parties

Availability

There's no need to store your sensitive data in one place, as blockchain technology allows you to have multiple copies of your data that are always available to network users.

Increase customer trust

Your clients will trust you more if you can ensure a high level of data security. Moreover, blockchain technology allows you to provide your clients with information about your products and services instantly.