

# CORPORATE

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## Richard Turpin

*Innovation Adds Value,  
"Innovation Theater" Does Not*



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CORPORATE INVESTMENT TIMES



*Gareema (Rima) M.*

# MEET THE CEO

## FOUNDER AND GROUP CEO CIT NETWORKS

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*This is the vision that she had when Gareema, also known lovingly as Rima, started the Corporate Investment Times magazine.*

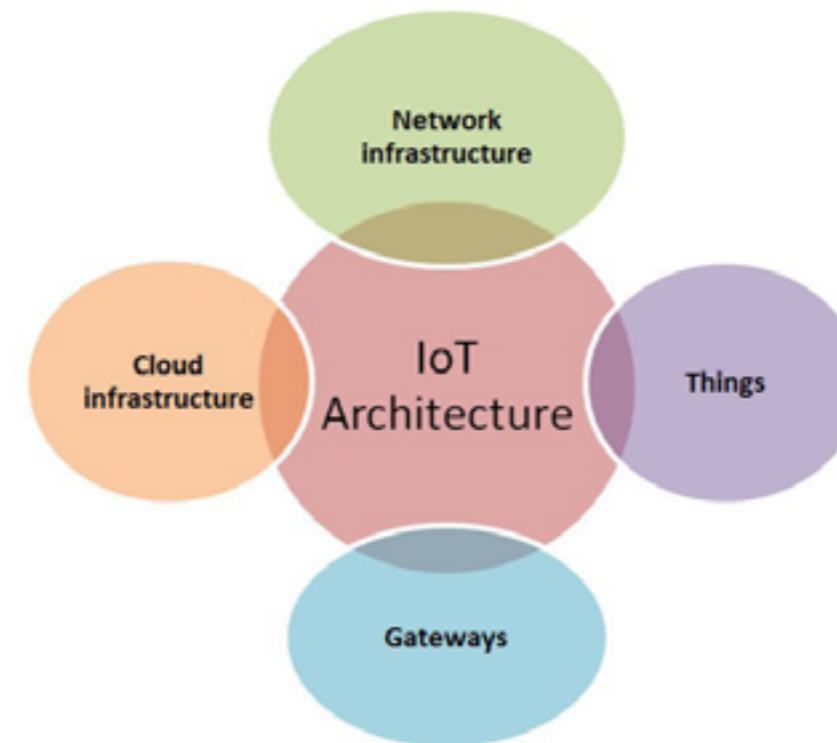
*With nothing less than a Masters degree in International Business Management and an experience in Operations and Top Management spanning no less than over 14 years, she has proven to be perfectly apt for the momentous task that has truly never been tried by any other -to create a print as well as online magazine that knows no geographical boundaries as such and connects all forms of investments whether the traditional ones or the next generation ones.*

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# FUTURE TECHNOLOGY

## *IoT and Blockchain Convergence*

the No.1 Voice to Follow in Tech & influencer on LinkedIn  
Expert: IoT-Blockchain-AI, Author, Keynote Speaker



- manageability.
- Network infrastructure: This is comprised of routers, aggregators, gateways, repeaters and other devices that control and secure data flow.
- Cloud infrastructure: Cloud infrastructure contains large pools of virtualized servers and storage that are networked together with computing and analytical capabilities.

### CHALLENGES TO SECURE IOT DEPLOYMENTS

Existing security technologies will play a role in mitigating IoT risks but they are not enough. The goal is to get data securely to the right place, at the right time, in the right format. It's easier said than done for many reasons, and here is a list of some of the challenges:

**T**he Internet of Things (IoT) as a concept is fascinating and exciting, but one of the major challenging aspects of IoT is having a secure ecosystem encompassing all building blocks of IoT-architecture. Understanding the different building blocks of IoT, identifying the areas of vulnerability in each block and exploring technologies needed to counter each of the weaknesses are essential in dealing with the security issue of IoT.

IoT architecture can be represented by four building blocks:

- Things: These are defined as uniquely identifiable nodes, primarily sensors that communicate without human interaction using different connectivity methods.
- Gateways: These act as intermediaries between things and the cloud to provide the needed connectivity, security, and

- Many IoT Systems are poorly designed and implemented, using diverse protocols and technologies that create complex and sometimes conflicting configurations.
- Limited guidance for life cycle maintenance and management of IoT devices
- IoT privacy concerns are complex and not always readily evident.
- There is a lack of standards for authentication and authorization of IoT edge devices.
- Security standards, for platform configurations, involving virtualized

# PROF. AHMED BANAFA



IoT platforms supporting multi-tenancy is immature.

- The uses for Internet of Things technology are expanding and changing—often in uncharted waters.

In addition to the above list, new security technologies will be required to protect IoT

devices and platforms from both information attacks and physical tampering, to encrypt their communications, and to address new challenges such as impersonating „things“ or denial-of-sleep attacks that drain batteries, to denial-of-service attacks (DoS). But IoT security will be complicated by the fact that many „things“ use simple processors and operating systems that may not support sophisticated security approaches.

A prime example of the urgent need for such new security technologies is the recent massive distributed denial of service attack (DDoS) that crippled the servers of popular services like Twitter, Netflix, NYTimes, and PayPal across the U.S. on October 21st, 2016. It was the result of an immense assault that involved millions of internet addresses and malicious software. One source of the traffic for the attacks was devices infected by the Mirai malware. The attack comes amid heightened cybersecurity fears and a rising number of internet

security breaches. All indications suggest that countless IoT devices that power everyday technology like closed-circuit cameras and smart-home devices were hijacked by the malware, and used against the servers.

The problem with the current centralized

model

Current IoT ecosystems rely on centralized, brokered communication models, otherwise known as the server/client paradigm. All devices are identified, authenticated and connected through cloud servers that sport huge processing and storage capacities. Connections between devices have to exclusively go through the internet, even if they happen to be a few feet apart.

While this model has connected generic computing devices for decades and will continue to support small-scale IoT networks as we see them today, it will not be able to respond to the growing needs of the huge IoT ecosystems of tomorrow.

Existing IoT solutions are expensive because of the high infrastructure and maintenance cost associated with centralized clouds, large server farms, and networking equipment. The sheer amount of communications that will have to be handled when there are tens of billions of IoT devices will increase those costs substantially.

Even if the unprecedented economic and engineering challenges are overcome, cloud servers will remain a bottleneck and point of failure that can disrupt the entire network.

#### DECENTRALIZING IOT NETWORKS

A decentralized approach to IoT networking would solve many of the issues above. Adopting a standardized peer-to-peer communication model to process the hundreds of billions of transactions between devices will significantly reduce the costs associated with installing and maintaining large centralized data centers and will distribute computation and storage needs across the billions of devices that form IoT

networks. This will prevent failure in any single node in a network from bringing the entire network to a halting collapse.

However, establishing peer-to-peer communications will present its own set of challenges, chief among them the issue of security. And as we all know, IoT security is much more than just about protecting sensitive data. The proposed solution will have to maintain privacy and security in huge IoT networks and offer some form of validation and consensus for transactions to prevent spoofing and theft.

To perform the functions of traditional IoT solutions without a centralized control, any decentralized approach must support three foundational functions:

- Peer-to-peer messaging;
- Distributed file sharing;
- Autonomous device coordination.

#### THE BLOCKCHAIN APPROACH

Blockchain, the „distributed ledger“ technology, has emerged as an object of intense interest in the tech industry and beyond. Blockchain technology offers a way of recording transactions or any digital interaction in a way that is designed to be secure, transparent, highly resistant to outages, auditable, and efficient; as such, it carries the possibility of disrupting industries and enabling new business models. The technology is young and changing very rapidly; widespread commercialization is still a few years off. Nonetheless, to avoid disruptive surprises or missed opportunities, strategists, planners, and decision makers across industries and business functions should pay heed now and begin to investigate applications of the technology.

#### WHAT IS BLOCKCHAIN?

Blockchain is a database that maintains a continuously growing set of data records. It is distributed in nature, meaning that there is no master computer holding the entire chain. Rather, the participating nodes have a copy of the chain. It's also ever-growing — data records are only added to the chain.

A blockchain consists of two types of elements:

- Transactions are the actions created by the participants in the system.
- Blocks record these transactions and make sure they are in the correct sequence and have not been tampered with.

### WHAT ARE SOME ADVANTAGES OF BLOCKCHAIN?

The big advantage of blockchain is that it's public. Everyone participating can see the blocks and the transactions stored in them. This doesn't mean everyone can see the actual content of your transaction, however; that's protected by your private key.

A blockchain is decentralized, so there is no single authority that can approve the transactions or set specific rules to have transactions accepted. That means there's a huge amount of trust involved since all the participants in the network have to reach a consensus to accept transactions.

Most importantly, it's secure. The database can only be extended and previous records cannot be changed (at least, there's a very high cost if someone wants to alter previous records).

### HOW DOES IT WORK?

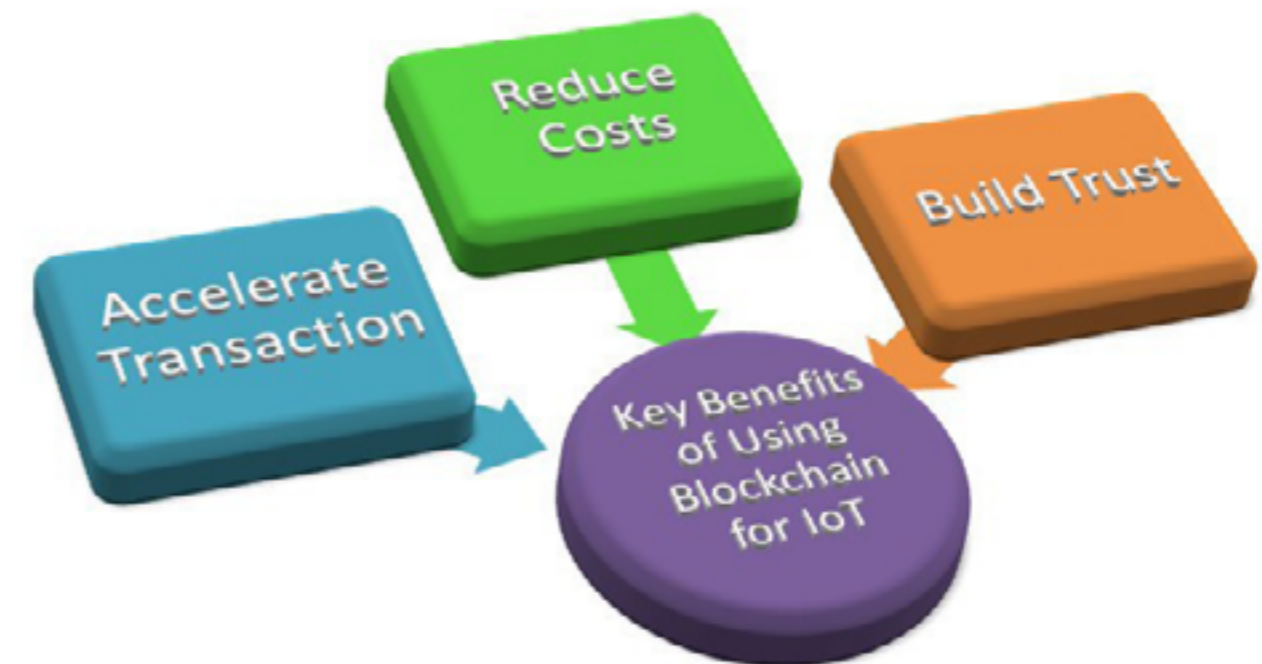
When someone wants to add a transaction to the chain, all the participants in the network will validate

it. They do this by applying an algorithm to the transaction to verify its validity. What exactly is understood by „valid“ is defined by the blockchain system and can differ between systems. Then it is up to a majority of

the participants to agree that the transaction is valid.

A set of approved transactions is then bundled in a block, which gets sent to all

savings for IoT industry manufacturers. This decentralized approach would eliminate single points of failure, creating a more resilient ecosystem for devices to run on. The cryptographic



the nodes in the network. They, in turn, validate the new block. Each successive block contains a hash, which is a unique fingerprint, of the previous block.

### THE BLOCKCHAIN AND IOT

Blockchain technology is the missing link to settle privacy and reliability concerns in the Internet of Things. Blockchain technology could perhaps be the silver bullet needed by the IoT industry. It can be used in tracking billions of connected devices, enabling the processing of transactions and coordination between devices; this allows for significant

algorithms used by blockchains would make consumer data more private.

The ledger is tamper-proof and cannot be manipulated by malicious actors because it doesn't exist in any single location, and man-in-the-middle attacks cannot be staged because there is no single thread of communication that can be intercepted. Blockchain makes trustless, peer-to-peer messaging possible and has already proven its worth in the world of financial services through cryptocurrencies such as bitcoin, providing guaranteed peer-to-



peer payment services without the need for third-party brokers.

The decentralized, autonomous, and trustless capabilities of the blockchain make it an ideal component to become a foundational element of IoT solutions. It is no surprise that enterprise IoT technologies have quickly become one of the early adopters of blockchain technology.

In an IoT network, the blockchain can keep an immutable record of the history of smart devices. This feature enables the autonomous functioning of smart devices without the need for centralized authority. As a result, the blockchain opens the door to a series of IoT scenarios that were remarkably difficult, or even impossible to implement without it.

For example, by leveraging the blockchain, IoT solutions can enable secure, trustless messaging between devices in an IoT network. In this model, the blockchain will treat message exchanges between devices similar to financial transactions in a bitcoin network. To enable message exchanges, devices will leverage smart contracts which then model the agreement between the two parties.

One of the most exciting capabilities of the blockchain is the ability to maintain a duly decentralized, trusted ledger of all transactions occurring in a network. This capability is essential to enable the many compliances and regulatory requirements of industrial IoT (IIoT) applications without the need to rely on a centralized model.

#### WHAT ARE THE CHALLENGES?

In spite of all its benefits, the blockchain model is not without its flaws and shortcomings:

- Scalability issues pertaining to the blockchain that might lead to centralization, which is casting a shadow over the future of the cryptocurrency.
- Processing power and time required to perform encryption for all the objects involved in a blockchain-based ecosystem. IoT ecosystems are very diverse. In contrast to generic computing networks, IoT networks are comprised of devices that have very different computing capabilities, and not all of them will be capable of running the same encryption algorithms at the desired speed.
- Storage too will be a hurdle. Blockchain eliminates the need for a central server to store transactions and device IDs, but the ledger has to be stored on the nodes themselves. And the ledger will increase in size as time passes. That is beyond the capabilities of a wide range of smart devices such as sensors, which have very low storage capacity.
- Lack of skills: few people understand how blockchain technology really works and when you add IoT to the mix that number will shrink drastically.
- Legal and compliance issues: It's a new territory in all aspects without any legal or compliance code to follow, which is a serious problem for manufacturers and service providers. This challenge alone will scare off many businesses from using blockchain technology.

#### THE OPTIMUM PLATFORM

Developing solutions for the Internet

of Things requires unprecedented collaboration, coordination, and connectivity for each piece in the ecosystem, and throughout the ecosystem as a whole. All devices must work together and be integrated with all other devices, and all devices must communicate and interact seamlessly with connected systems and infrastructures. It's possible, but it can be expensive, time-consuming, and difficult.

The optimum platform for IoT can:

- Acquire and manage data to create a standards-based, scalable, and secure platform.
- Integrate and secure data to reduce cost and complexity while protecting your investment.
- Analyze data and act by extracting business value from data, and then acting on it.

Security needs to be built in as a

**foundation of IoT systems, with rigorous validity checks, authentication, data verification, and all the data needs to be encrypted. At the application level, software development organizations need to be better at writing code that is stable, resilient and trustworthy, with better code development standards, training, threat analysis and testing.**

**As systems interact with each other, it's essential to have an agreed interoperability standard, which is safe and valid. Without a solid bottom-top structure we will create more threats with every device added to the IoT. What we need is a secure and safe IoT with privacy protected. That's a tough trade off but not impossible and blockchain technology is an attractive option if we can overcome its drawbacks.**





**"Interacting more with people and less with screens may not come naturally, but it's in the best interest of all involved."**

– RICHARD TURRIN

## THE BASICS:

# Innovation Adds Value, "Innovation Theater" Does Not

One of the most chronic afflictions for corporate innovation programs is something insiders commonly call "innovation theater"—where companies make a big show out of innovating while being far less effective at producing results. These companies tend to get headlines for a series of breathtaking innovations that make competitors green with envy. They may even have a spokesperson for innovation to make it

clear they are at the fore. Or so it seems. Closer examination may reveal that innovation is only skin deep, with little actual headway in implementing the solutions that are flowing out of their innovation ecosystem. There can be no greater example of corporate-sponsored innovation theater than the now infamous Silicon Valley tech company Theranos. Based on innovation hype alone, its market capitalization rose to \$US 9 billion, with 800

employees at its peak. It was adored by the media, which it used to fuel its valuation. Reports of their prowess in revolutionizing blood testing using "nanotainer" technology and the "Edison" analysis machine were ubiquitous. These helped garner a visit by U.S. Vice President Joe Biden and cast a spell over usually skeptical investors. If ever there was a champion of pathbreaking that rivaled the late Steve Jobs, it was the charismatic, black-turtleneck-wearing,

Stanford drop-out, Elizabeth Holmes. When the innovations didn't live up to the hype, the now-disgraced CEO simply lied and coerced others into doing the same to cover up their deception. Not only did the company over-report its breakthroughs, but it also misled investors to the point that the SEC pursued fraud charges against senior officers. Elizabeth Holmes has now been charged with criminal fraud against doctors, patients, and investors.

## Richard Turrin

*Rich Turrin is the international best-selling author of "Innovation Lab Excellence: Digital Transformation from Within" and an award-winning executive with more than 20 years of experience in fintech innovation. He is an independent fintech, AI, and innovation consultant, helping clients navigate the uncharted waters associated with all things "Made in China." He previously headed fintech for IBM Cognitive Studios Singapore (IBM's AI Innovation Lab) and for IBM in China where he led his team to win the prestigious "Risk Technology Product of the Year" award for his unique hybrid-cloud solution to risk analytics. His next book is titled "China's Digital Currency Revolution: Profit from Banking Innovation that will Shape our Future," available in mid-2020. Learn more: [RichTurrin.com](http://RichTurrin.com). Follow me on LinkedIn and Twitter*

This is subsequent to her reaching a settlement with the SEC, which levied cash penalties, share forfeiture, and a 10-year ban from leadership in publicly owned companies. Other senior corporate officers have been indicted for fraud, and many more are fighting SEC charges. The company has been dissolved with \$60 million in debts, of which an estimated \$5 million will be repaid.

### THE ILLUSION OF “NEW AND BETTER” HAS REAL VALUE

This is not to suggest that innovation theater on this scale is something your company would engage in, but it does serve to illustrate how powerful the illusion of “new and better” really is. Innovation has real value, but it can be a potent tool for management to wield to increase the perceived value of the company. This is why many companies inflate their latest achievements as a demonstration that they are poised for the future. Innovation pays, not just in

the tangible new tech, but in terms of the opinion of the outside world. Amplifying the extent of innovative achievement makes analysts, shareholders, and potential investors happy. As a result, innovation theater will always be with us.

### INNOVATION THEATER’S DISTINCTIVE LOOK AND FEEL

The big question is, to what degree? Corporate innovation programs, often called innovation labs, spaces, or teams, where theater overrides the creation of workable tech have a characteristic look and feel, and a typical set of behaviors that you can spot from a mile away. First, they tend to proclaim that their mission is lofty, that it will disrupt the normal operation of the institution, and that the plan is not just big—it’s massive! So massive, in fact, that it can be achieved only after several years of diligent work. Of course, the cost will be minuscule when compared to the enormous payout. This big plan relies on a critical new technology,



whether AI, blockchain, or “nanotainers.” The technology itself is often being sold as a game-changer. Your staff will simply get on board when it launches, so including them in the development stages would just slow down the entire process. Proof of concepts showing massive potential abound, but never reach the finish line. Mucking about trying to help your business deal with more mundane problems may be viewed as beneath them, or beyond the strained capabilities of their overworked staff. Keeping the company in the press is critical;

innovation team members are perpetually at conferences pitching their view of the future, which is amplified by corporate PR and senior executives. High visibility hackathons are also favorite ploys because they generate press that keeps the company in the headlines and elevates its reputation for being innovative. Finally, the innovation staff is full of energetic young people who are willing to throw themselves diligently at any problem; they have little knowledge of the actual business, but tremendous faith that some senior manager has judiciously

surveyed the business landscape. While this may sound suspiciously like Theranos, it could be any innovation program that seeks to pump up its perceived value within the company or score points with access to the press. This sums up some of the more prominent characteristic behaviors of companies engaging in innovation theater and why, for a multitude of reasons, some corporate innovation programs may be more stage sets than genuine agents of change.

### INNOVATION THEATER CAN BE CHRONIC OR FATAL

If you were to think of innovation theater as a disease, it has the potential to be either chronic or fatal—it hinges on the relationship between the innovation team and the corporate parent. It’s possible to live as theater for a very long time if the team is content to devise showpieces that don’t actually get implemented. Concurrently, the parent, for whatever reason, may find it easier to live with the façade, while business proceeds as usual. If you think that this devil’s







bargain is rare, you're mistaken. Many innovation programs fall into this category—some by explicit agreement, others because they are caught in an impasse with their parent. Staffers have a sense of resignation that their products don't get anywhere, but nonetheless believe that they should just keep at it. At the very least, they get to give great tours to visitors. Innovation theater only becomes fatal when the impasse ends, with innovators moving on as they sense that despite their optimism, nothing will ever come of their work.

#### WHY BOTHER CHANGING?

Overhauling innovation theater is not strictly necessary. If everyone involved is relatively content, and if the publicity is beneficial, by all means, keep at it. It's no joke that the publicity garnered

by the innovation team has a real benefit to investor's perceptions, and maybe the team is paying for itself many times over in advertising and public relations. As cynical as this sounds, there will be some who will be happy to live with this arrangement. In most cases, however, this marriage of convenience isn't stable, and it will be up to the innovators to make changes to escape from irrelevance. For what it's worth, corporate parents generally are the instigators in creating innovation theater. Their desire for good public relations trumps their desire to implement real change. They create a feedback cycle that rewards the innovation team for getting in the press and making the company look good. The parent then doubles down by giving the team latitude to think big, so long as the projects are newsworthy.

#### CHANGING REWARDS, BECOME A "PLAYER"

In the end, the reward system needs to be changed to bring the innovation team back into relevance. Their incentive structure needs to be overhauled to reward incremental, documented, implemented innovation. Pay them to get into your company's fabric instead of generating good PR. Typically, the team must initiate this process and get management on board. This will be difficult as management is likely happy with the status quo. To effect a redirection, the team must first show management the future they are missing out on by not innovating. This is a difficult task that is somewhat akin to shaming executives into real innovation.

Ideally, this would be followed by a proposal in which the team negotiates a position where it can profit or otherwise benefit from any real innovation it develops. A successful proposal means a sea change in the dynamics between the parent and innovators.

First and foremost, the team should have a financial interest in the success of its projects, and management may thus be sufficiently vested in the process to accept more innovation. This is being "culturally sensitive" to management as many will not recognize the innovator's achievements without an associated dollar value since this is the only metric they've ever known. By tying the team financially to its projects, the team becomes a "player" in the corporate battle for resources and gets on managers' radar for something more than theater. The moment the team can generate profit from an innovation, or at the very least clearly demonstrate its dollar value, the innovation

program will become something more to management and escape its tarnished image as mere theater.

I understand that this is strong medicine and will leave many unsettled. These changes are profound and will require significant changes in the team's projects and how their success is measured. Whether the cure for innovation theater is worse than the sickness is certainly debatable. Then there is always the issue of degree. Usually, the truth is found in shades of gray that lie between black and white, and so it is with innovation programs. Some degree of theater in your innovation program may be workable, and perhaps a more modest refocus is all that is needed. That said, a hard reset of what your innovators do and its accounting may just be the jolt required to capture management's attention as to the real value of innovation in your company's future.



## Impacting Investments

### *Building a strong and sustainable future*

**I**t was once said that success is not measured by the amount of money you make but by the lives you impact – the mantra that must begin to drive our collective business purpose along with our humanitarian conscience. As we move forward in this UN-declared Decade of Action, we are beginning to recognize that the successful businesses of the future are those who adopt ethical business models,

infusing sustainability into their operations, from their supply chain to their community impact. In the ever-wise words of Paul Polman, former CEO of Unilever, “we cannot choose between growth and sustainability – we must have both”. Committing to growth and sustainability is our impact, and impact requires investment.

‘Impact’ is one of the most overused words of current

**LARISA B.  
MILLER, CEO  
PHOENIX GLOBAL, LLC**

**PG**  
PHOENIX GLOBAL



sometimes known as sustainable investing, intends to affect change on the ecosystem of life. But what is sustainability? The colloquial characterization of sustainability is the enduring viability of the environment, society, and the economy. However, it is important to acknowledge that sustainability touches every industry, every sector of business, and every aspect of life. We must collectively recognize that it is only by embracing a unified sense of global stewardship that we can quantifiably mitigate and reverse the turmoil that we have heaped on the planet.

Burgeoning climate change challenges, social discord, and wide-spread economic and market instability in major global economies, are antigens to sustainability which are rapidly colliding as catalysts to large-scale systemic societal and planetary failure. Rather than being left to flounder for our own way-forward, in 2015 the United Nations unveiled the SDGs as part of the 2030

Agenda for Sustainable Development. The Sustainable Development Goals, which are comprised of 17 encompassing goals and 169 targets within those goals, are a universal call to action to address the major issues impacting humanity across the globe, such as poverty, hunger, energy poverty, food & water security, gender inequality, a lack of access to quality education – a mere sampling of the areas addressed by the Sustainable Development Goals, requiring a collective response – and, all of which are essential to our survival. The problems we are facing are much larger than any one organization or nation can tackle alone. Reversing the damage will not only fall on the shoulders of government and industry, but on all of us as individuals. It is now our responsibility to form a united front of undiluted commitment in the remediation of the problems addressed by the Sustainable Development Goals. Sustainability doesn't have to be daunting or complicated, and impact does not have to be inconvenient or expensive.

Impact investing is about unleashing the power of capital for global good. As governments, markets and consumers begin to embrace their responsibility to sustainability, impact investments are seeing accelerated returns as a result. Rishabh Chokhani, CEO of Naturevibe Botanicals, noted that today's consumers want to buy a more responsible lifestyle, rather than just a product. Consumers are recognizing that our long-term survival, living on a healthy and vibrant planet, depends on the responsible choices we make today. Thus, the impact investment market increasingly offers more forward-thinking and innovative options for unconventional, diverse and viable investments.

While a strong ROI is the generally accepted goal for investment, a return on investment does not always have to be financial. Many impact investors accept below-market-rate returns in exchange for the achievement of certain strategic goals and objectives – social and environmental impact.

Helping an innovative new concept take flight or supporting a young entrepreneur with a vision for change can be valuable enough to the investor to compensate for the less dramatic financial returns. While impact investing has become a standard ingredient in the portfolios of large companies such as Morgan Stanley and General Electric, it is beginning to take shape in the mandate of SMEs, enterprises, family offices, and even in the portfolios of individuals. Early-stage tech, energy, and environmental solution companies are a good launchpad for the new impact investor. These "ethical" investments, allowing for both equity or debt, can be an extraordinary opportunity for a seasoned businessperson investing in a start-up to share their expertise and management approaches, providing financial value as well as leadership guidance in return for their equity share. For larger businesses, making an investment into a complimentary enterprise, developing a concept

times, however, when pertaining to actions which make a positive difference to people, society, or the planet, the thesaurus is noticeably devoid of meaningful options. Where profitability was once the primary designation of a successful business, now, in this age of sustainability and with the understanding that we have a collective responsibility to the future, our success is determined

by the footprint we leave and the difference we make. We all bear a degree of culpability towards the planetary turmoil we are facing, and, moving forward, 'responsibility' must become the nucleus of our individual choices, behaviors and investment, and will be the foundation upon which the future will be shaped.

Impact investing,

or technology that can be utilized by the investing company, fosters strong partnerships which can accelerate both businesses. Growth and prosperity will increasingly come from unity, supporting the evidenced concept that we are stronger together.

In this very disruptive modern marketplace, businesses of the future must infuse sustainability and a global conscience into their operations. Impact investing will be the catalyst to propel these businesses to the head of the pack and determine which businesses will emerge as leaders amongst competitors in a very crowded marketplace. As governmental officials, business leaders, entrepreneurs, and investors, of course we want our money to work for us – that’s the primary objective of investment. Sensible investments are ones which have strong ROIs, improving our financial position, helping us to achieve both short-and long-term financial goals. However, we are facing a very critical era, recognizing that conventional thought processes must be disrupted. Now more than ever, how we invest our money will play

a significant and determining role in the future viability or failure of our planet. The future depends on the decisions we make now. Our investment decisions must reflect our acknowledgment that we are all stakeholders of the planet – good and bad, and impact investment MUST become a mandatory ingredient in both our business and personal portfolios.

Why is it essential for us to prioritize impact, and pursue investment to achieve that impact? The effects of climate change will be irreversible by 2030. Let that sink in. We have ten years to reverse the catastrophic and irreversible damage being done to our planet. If you want your great-grandchildren to have the opportunity to ski on a mountain still covered in snow - if you want them to swim in safe, clean oceans and have clean water to drink and food to eat - if you yourself want unpolluted air to breathe, then we have the ethical obligation to impact-invest in our future. Earth Day USA regards this as the beginning of the last crucial decade of humankind. Scary? It certainly is. Our global reality is shocking, and too often, we stick our heads in the sand, thinking, “it won’t happen during my lifetime”, and we leave the solutions to the future generations. But consider this...the 20 warmest years on record have occurred in the last 22 years. The percentage of carbon dioxide in the air is the highest it’s been in 3 million years. Eleven percent of the greenhouse gas emissions are caused by our accelerated deforestation. Half of all amphibians are at risk of extinction due to climate change, with scientists estimating that a dozen species of plants and animals go extinct each day because



# LARISA B. MILLER CEO

*As Chief Executive Officer of Phoenix Global, I oversee global investments in 20+ countries around the world, facilitating relationships between business and government. Additionally, as a consulting firm, we work with clients on five continents, strategizing market expansion and acceleration, business revitalization, reputation and brand management*

*Named one of the “Top 10 Friends of Africa” by For Business in Africa Magazine, and one of the World’s 100 Most Influential Women Leaders by Sovereign Magazine, I am an award-winning keynote speaker, speaking globally at conferences, summits and forums, as well as to corporations and private seminars for team building, business plan strategies, 2030 plans, storytelling, and more.*

of the effects related to climate change. The majority of the world is facing extreme weather shifts – floods, earthquakes, superstorms, excessive heatwaves, all due to climate change. While we have a very narrow window of time left to be able to reverse the negative trajectory of our planet, if we prioritize impact investing, we will be able to create a viable and sustainable environment for future generations. Most nations recognize the importance of bilateral collaboration and are signing global compacts, committing to sustainable impact. We understand the need for technologies and innovations which will optimize our work leaving less of an environmental footprint. We can develop precision agriculture techniques which will allow us to ensure food and water security. But we cannot achieve any of these imperatives without capital investment – investing in the products, concepts, innovations and technologies which will allow us to charge boldly towards a sustainable and durable future.



**Financial return and sustainability must go hand in hand, with sustainability taking the lead. We have a very short and prescribed time in order to make an impact which can save our future. Sustainable impact is the most significant responsibility facing humankind since the dawn of man. Investment in sustainability is the vehicle that will allow us to positively influence the mandates thrust on us by prior decades of damage. We are the authors of our story, and we decide whether that story goes on, or ends. In this Decade of Action, the next chapter is up to us.**



WHEN GETTING THERE IS HALF THE FUN



# ADRIAN NICULESCU

*Digital Transformation Expert | Speaker |  
Fintech Investor | Online and Real Estate  
Entrepreneur | Music Producer*

## HOW UNSTOPPABLE IS THE DIGITALIZATION OF THE BANKING INDUSTRY



Adrian Niculescu with his family and the Romanian TV Star Catalin Maruta at PRO TV

**A**s a serial entrepreneur who has started this “hardest job in the world” (aka the one of being an Entrepreneur) in the 90’s, just before finishing the University I look carefully at the projects where the

value-added in the world is more important than the quick buck earned no matter what.

The digitalization of I would say all industries is a trend which became unstoppable, and after

more than 10 years of learning and applying most marketing and sales principles and strategies my professional passion became similar to adding “digital transformation expert” under my name on LinkedIn. Of course,

there are industries tech driven which are by default transforming from one tech level to another so I am writing here about the ones where the technology makes things easier, faster and better.

I don't see any industry, even the most conservative ones staying out of the tech wave. I believe that all companies have to become in a certain percentage technological companies and some of the technologies will be widely adopted and will become the next tech unicorns.

This idea became crystal clear especially seeing the increase interest of family offices which are considered the most conservative investors to invest in the next generation of tech startups superstars which is a trend observed during the last two years.

At the beginning of March I was a speaker at It Forum Turkey, presenting a workshop about Digital Transformation in The Banking Industry so I met a lot of banking professionals at CXO level, learned a lot about their local specifics and also shared with them my findings and how I see the future.

During the next five years the banking will be

very different from what it is today, especially because we will see new players arriving at the top and dinosaurs dissolving because they didn't adapt to the changes.

Of course, this doesn't mean that every fintech startup which is funded today will become successful, as most offer more or less the same services and are in a big red ocean. The regular banks still hold a major advantage because most of the serious transactions is done through their accounts and also they offer the infrastructure and accounts systems for most fintech companies.

My suggestion for classical banks is to embrace both the fintech trend and the crypto one within the regulatory limits and slowly, slowly, to push the regulatory boundaries in the advantage of their users and the market overall these being beneficial also for their stakeholders.

Fintech became like Blockchain, more of a marketing trend as it

sound cool and sexy to be a fintech or blockchain something nowadays without knowing exactly what are these in real life. The

best model of the future banks I see to be the hybrid one, where the smartest players will take the best from both the classical and the new world. They will grow their own fintech and crypto startups in the backyard by hosting their own accelerators, putting seed money, mentorship and connections into projects that can become with the proper resources the next big thing.

The Banks of the future could be like the smart supermarkets owning factories, farms, private label brands, the real estate where the shops are located, online selling platforms and even the delivery app which brings the products at home through courriers.

These banks will be like Facebook, creating an operating system like proprietary social networks where members could send payments and do a lot of cool stuff. They will own the whole service chain and will become very hard to be disrupted by something new because that something new will grow in their accelerators so they will own a piece of

it.

The technology is a commodity, it is cheaper and cheaper to acquire so the banks will have to focus on lead acquisition, client nurturing and become so good in becoming no-brainer solutions for the customers.

The smart banks of the future will not buy expensive technology from third party providers but will power the growth of the next generation of tech startups by growing them in their accelerators with astronomical returns.

The bank's employees will use technology and robots for the repetitive tasks and will focus on becoming the helpers for the clients as they were supposed to be. Of course, some of the employees will not be able to adapt which will be a loss especially for them because in time of changes the learners thrive.

I can't call myself a banking



specialist but over my entrepreneurial career I was hurt by the limits of the classical bank system and I found many solutions within the new fintech and crypto world. When I present and create courses, workshops, write articles or speak at events I try to share as much possible from my own experience as most of my professional time is spent working on the real life projects I am involved with.

Briefly, here are few interesting projects where I am contributing with my work which could become the leaders in their field:

**CloudCoin Consortium** is the organization behind CloudCoin, the digital currency based on the RAIDA which is a post Blockchain technology. CloudCoin's mission is to provide a "perfect" global currency that cannot be counterfeited, double-spent, mined or lost; a Digital Currency that is 100% private, requires no public ledgers, accounts, or even encryption; a monetary system that is absolutely fair and ethical around the world. More info on <https://cloudcoin.global>

**Lolly** is a disruptor in brand marketing, creating a direct relationship between a brand and its customers at all the brand's touchpoints, including all online and offline resellers. The best time and place for a brand to market to existing and interested customers is where a purchase decision can be influenced and made. I would say that Lolly invents a new marketing medium and will lead the digital transformation of marketing for brands at their points-of-sale. More info on <https://lolly.life>. Lolly is currently funding for public launch.

**Realto** where I contribute with the experience gathered in real estate, technology and digital currency to digitalize the real estate industry. More info on <https://realto.global.com>



# 'CREDIBILITY' IS 'THE NEW CURRENCY'



CREDIBILITY  
CREDIBILITY  
CREDIBILITY

OVER  
20 MILLION MONTHLY VIEWS  
0.8 MILLION\* DOWNLOADS  
AND COUNTING...





# THE 1.34 BILLION STRONG NATION

## **TURNS**

*Supreme Court Of India removes RBI's  
banking ban on CryptoCurrencies in India*

*By Akshata Namjoshi (Senior Associate) with inputs from  
KOKILA ALAGH, Founder, KARM Legal Consultants, Abu Dhabi*



It was almost divine to start the day, with the news of Indian Supreme Court setting aside the impugned Reserve Bank of India (RBI) circular last week which directed the RBI regulated entities to not deal in virtual currencies and also exit existing relationships in this regard! And so began the India's Crypto Winter with a forced break up. While India was made to leash its crypto dreams, other jurisdictions marched full throttle to become the leading blockchain/crypto "valleys" "hubs" "islands" and "nations", including India's largest trading partner: The UAE. But letting bygones be bygones, now that India is 'springing' back into the crypto market, it might be the right time to speak of the looming concerns and areas which might deserve a focus from an Indian perspective.

In this piece we haven't attempted to comment or critique on the Indian SC judgement! The judgement is what legends are made of, so should remain untouched and unscathed of any remarks and tittle-tattles.

But we have tried to simply share some of our experiences as a firm, of the growth and mistakes of crypto market in the Middle East in the last few years – by keeping legalese to minimum and where possible, mapping it with the Indian developments or lack thereof.

#### LICENSING: RING FENCE WHERE NECESSARY

For the uninitiated, UAE works on a activity based licensing model for setting up of companies. A legal entity can be incorporated on mainland or in one of the 45 freezones based on the intended activities that the entity proposes to carry out., In the past Many companies in UAE have tried to operate out of wrong licenses and conduct crypto related activities basis such licenses. One such crown jewel being the case of a crypto exchange which tried to operate out of a software portal license from one of the freezones which has since been mandated to switch to a regulated model..

Currently, ADGM through its regulatory arm the FSRA has a fully operational licensing regime for virtual

assets and related activities. Speaking of exchanges, ADGM through its erstwhile Crypto-Assets Framework regulated the crypto-assets exchanges at par with multilateral trading facilities (MTF). Which meant that the set-up and governance obligations for a crypto-exchange were as rigorous under the markets and infrastructure rules of the FSRA- as that of an MTF or OTF.

ADGM now covers the crypto exchanges under the ambit of multi-lateral trading facilities. Similarly, many jurisdictions treat crypto-asset exchanges at par with the available trading facilities- Eg.- MiFID II

This is not to say that India should switch to 'activities based licensing' model for all the activities, but it might be helpful to introduce or draw a



parallel with existing laws for MTFs (if any); as the same will determine India's treatment of crypto-exchanges. It'll be helpful to identify and monitor exchange's market surveillance mechanisms; trading mechanisms; settlement processes; transaction recording and risk management mechanisms.

More so, it'll help India determine its approach towards those that do not qualify as exchanges but are pure order routing facilities or market intermediaries, such as: OTC Desks, crypto brokerage, custodians and other acting in principle or agent services. Such services in our experience at likely to outnumber the crypto-exchanges.

It has been our experience with

representing the exchanges and OTC Desks, that it is never easy to ensure the activities do not step into each other's territories and become a regulatory nightmare.

India might want to look at this golden opportunity sooner, as crypto-exchanges will either try to revive their operations or existing exchanges globally would want to penetrate the Indian market.

#### TOKENISATION OF SECURITIES: TIME TO MAKE FRIENDS WITH SEBI

We have seen a massive surge in projects based on tokenization of securities in the Middle Eastern region lately. With increasing trend of tokenization of SPVs, fund units and real estate investment trusts. While ADGM already has a

framework for issuance of virtual-assets, digitized securities and fiat tokens, UAE's Securities and Commodities Authority (SCA) is likely to give a green signal on the proposed crypto-asset regulation soon. Despite having one of the most robust real estate frameworks, UAE is hoping to fix liquidity issues by permitting tokenization of securities, title and rights associated with real estate.

**Kokila Alagh** ←

FOUNDER



will require a collective focus from regulators in areas of consumer protection

As a part of Fintech Working group for the Arab Monetary fund, KARM has also had a chance to interact with Central Banks and Capital Market Authorities of 22 (twenty-two) other MENA region countries- all exploring ways to best implement/introduce regulations for digital assets including ways to tokenize securities, real estate and natural resources. Some countries are also contemplating issuance of CBDCs, which to our understanding has also been proposed in India vide the draft regulations.

One of the finest examples (and often less celebrated) in this context is the Central Bank of Bahrain which introduced a Crypto Asset Module in Capital Markets volume of its rulebook.

Bearing that in mind, India's SEBI is yet to make an appearance in the debate. Once there is a (re)surge in the demand and supply of token-based projects in India, SEBI will have a much larger role to play than RBI, Department of Economic Affairs or Enforcement Directorate- Similarly, multiple sectors like tourism, hospitality, real-estate are likely to witness a penetration of tokenization models and

and product liability.

Some of the practical problems that we have faced and require diligence from a Capital Markets Authority are:

- Distinction in the tokens based on the type of securities they are representing- Eg. classes of shares and tokens issued thereto
- Conversion of different types of securities- Eg. Conversion of debt instruments like compulsorily convertible debentures to equity instruments. Ie. if the tokens have the capability of converting forms or if that'll entail issuance of fresh set of tokens;

Other aspects like fractionalization of ownership, listing, secondary trading will all require a much thought out approach. While technology may eventually come up with answers for most of these problems, currently the technology isn't self-sufficient and will require a higher degree of regulatory oversight to get it in order.

**CROWDFUNDING: ICOS HAVE DIED, THE ICO MENTALITY HASN'T!**

India is likely to witness a surge in tokenization-based projects which will try to evade the private-placement rounds and issue tokenized securities. The urge to find alternatives to IPOs has not subsided and possibly never will. But the solution isn't to force a plain vanilla private placement on such entities rather provide options for operating and regulating crowdfunding platforms (specifically the ones facilitating token subscriptions/offerings).

For India SEBI's coveted consultation paper on crowdfunding possibly needs more attention. In UAE for instance both the IFCs, DIFC and ADGM provide options for crowdfunding (CF) or private financing platforms (PFP). ADGM also provide possibilities of financing through and for- securities and virtual assets. DIFC offers equity, loan and property crowdfunding licenses and is home to some of the leading crowdfunding platforms like Smartcrowd.ae and FundedbyME. Only recently that DIFC has also permitted capital raise on crowdfunding platforms

through tokens. Two of such projects have been inducted in the sandbox model of DIFC and KARM has had the privilege of advising both.

Which brings us to our next area of interest: Sandboxes. Both DIFC and ADGM's Sandboxes have received overwhelming response from start-ups around the globe Time might be ripe to extend RBI's sandbox to virtual assets and tokenization-based projects. A sandbox will at least ensure that projects do not shift bases to other jurisdictions- case in point being UAE and Singapore which have had a history of successful sandboxes.

**AML/KYC/CFT- IT'S A**



**CONCERN, NOT A DEAL BREAKER**

India should pat itself for having one of the strongest ID systems in the world (happy to debate this on facts and figures). Yes, AML/KYC is a major problem- but India has already achieved what remains a distant dream for many countries- a nationalized identification system! Again, this is not to say that linking Aadhar with your digital wallets will solve all the problems, but it's not a bad start either. Take it a notch higher by having clearly defined rules for API integration and one might achieve a great solution. During the course of KARM's surveys for drafting guidelines on 'Digital Identity and E-KYC' for the Arab Monetary Fund, most regulators in the MENA region have portrayed a desire for utilizing an 'Aadhar' style model for use and implementation of CBDCs, Open Banking/ Finance and Fintech

→ **Akshata Namjoshi**

LAWYER-BLOCKCHAIN | FINTECH | AI

solution. An observation to be proud of!

A regulator's involvement- Further, a regulator can get into the details of client onboarding, business continuity, disaster recovery plans and security operating procedures of a project. In our experience, a defining factor in such projects has also been the responsibility and obligations of the money-laundering reporting officer (MLRO) which is required to be appointed by each and every regulated entity in the freezone, hence hedging the risk of the regulator to a greater extent.

#### OTHER AREAS

It's high time that jurisdictions start taking compliance functions and enforcement measures seriously. IT, Cyber and Information security, together with Situational Awareness with threat intelligence at the heart thereof, are areas which have unfortunately never received the necessary attention.. India, factually being a technologically strong country, with abundant and relative easy access to a skilled workforce, can easily create, manage, test and evolve in the sphere of Cyber Resilience.

In so far as the protection of personal data is concerned, well.. pass that bill already! In repeatedly discussing and deliberating on aspects and issues of personal data and the protection thereof, such like the GDPR, India might just delay a golden opportunity of formalizing the personal data

protection law. So far as Blockchain is concerned, Blockchain and Data Protection conceptually are at logger heads with each other- so market dynamics might turn out to be way different than what the law anticipated them to be.

As lawyers to a project providing data storage through a public permissionless blockchain, we have witnessed the lack of clarity available ,globally' on the hierarchy and accountability of different category of nodes on the blockchain from the perspective of data processing, anonymity and ring fencing of personal data. While we have managed to find solutions, such solutions qualify only as good governance practices- until formally recognized by the legislature. UAE currently has no law to this effect barring a few sectoral regulations leaving a room for interpretation. Therefore, if India is so close to having one- then might just expedite on it to save industry of Round 2 of regulatory confusions.

#### CONCLUSION

**From a UAE perspective, opening up of Indian crypto markets is on most**

**KARM LEGAL CONSULTANTS** are proud

*Members of the Arab Monetary Fund Regional Fintech Working Group, recently having been privileged to assist the Working Group in the research and drafting of three (3) policy guidelines in Fintech.*

*One such policy included 'The Digital Identity and e-KYC Guidelines in the Arab Region', presented at the Third Meeting of the Arab Regional Fintech Working Group on 15 and 16 December 2019; and which will be formally published by the Arab Monetary Fund during early 2020.*

*We hope and trust that our work will be an informative resource for our readers.*

**accounts great for its largest trading partner- UAE. UAE has witnessed a surge in projects getting hosted from its freezones in the last 2 quarters. What is now needs is a market to usher in a crypto summer and ripen its trade.**

***What better than a market 1.2 Billion people strong?***



# DR. JANE THOMASON

## CEO, FINTECH WORLDWIDE



## Foundational Infrastructure

### *Blockchain: a new Foundational Infrastructure for Banking and Bonds*

**D**espite being traditionally cautious, banks have been some of the earliest adopters of Blockchain technology and are proving to be far more progressive than other industry sectors. Banks have used distributed ledgers for recording transactions and settlements since around 1991. Proof of concepts and forthcoming deployments are underway in the following areas:

- The establishment of syndicated loan joint ventures
- Forthcoming provision of utility settlement coins (from 2020)
- Settled high-value securities transactions
- Mutualised KYC servicing
- Efficient cross-border transaction and verification
- Internal foreign exchange

- balance sheet reconciliation
- Back-office business management
- Secure interbank letters of credit
- Trade finance transactions
- Bond issue and settlement

The benefits of Blockchain for process and transaction management include; wide-ranging oversight of trades from trade to settlement, reduced risk of discrepancy and delayed settlement, real-time access to a shared ledger for sighting by multiple stakeholders, automation of traditionally manual processes, reduced reliance on external settlement networks, efficiency gains in capital velocity, reduced counterparty, market and credit risk. Accenture estimates that, at the current cost structure,

utilising Blockchains will enable investment banks to save US\$8 billion on a cost base of US\$30 billion - a 27% cost-saving.

Governments, investment banks, and infrastructure providers alike are all experimenting with Blockchains believing that a shared ledger will reduce costs and increase transparency. Some of the economic benefits of using Blockchains include:

- The convergence of financial process with monetary policy
- The introduction of new methods of settlement, from the current central banking model
- The introduction of payment channels, which could restructure debt burdens
- The potential for Securities-as-a-Service for meeting responsibilities such as government overhangs
- New methods of financial control and risk management, such as real-time balance sheets

The implementation of institutional measures of transparency and automation are likely

to repoint key financial, operational, risk and finance systems from manual systems on cloud platforms to automated systems on shared data platforms. Currently, despite the importance of data reconciliation and accuracy, the majority of institutions maintain their own data, creating varied inefficiencies: duplication, input-failures, repeated and ineffective consultation. Blockchain, by contrast, could enable a progression from today's multiple and sequential data reconciliation models to a much more efficient process in which reconciliation is an integral part of the transactional

process. This would mean a decommissioning of large parts of systems process and infrastructure. A 2017 report by Accenture estimates the world's largest central banks would save 70% in financial reporting through streamlined processes, optimised data quality, enhanced internal controls and transparency. For financial instruments – like bonds - are easily ported to Blockchains. Illustrating the ease and efficiency of a bond issuance and settlement on the Blockchain, James Wall, the Executive General Manager of the Commonwealth Bank of Australia, the provider of Bond-i bonds



– in partnership with the World Bank – is quoted as saying: “You’re collapsing a traditional bond issuance from a manual bookbuild process and allocation process, an extended settlement then a registrar and a custodian, into something that could happen online instantaneously”.

In addition to process redesign, part of Blockchains’ benefit is the potential to transition capital structures in three ways; transitioning from a gross settlements basis to one of net settlements,

use of payment channels and by the sighting of real-time balance sheets. In net settlements, smart contracts can pledge future cash payments in exchange for reduced interest, or, in the case that debt repayments cannot be managed, make smaller, more frequent repayments against the balance. For example, nations could borrow monies for the building of a bridge in an Industrial Development Bond (IDB) and instead of borrowing the gross amount, the net amount could be borrowed with

digitally registered assets and smart contracts used to match expected tax receipts from citizens to construction expenses, thereby creating real-time finance systems and disrupting the central banking model.

Increasingly, a number of large enterprises are experimenting with issuing digital securities on Blockchains.

In September 2018, the Austrian government launched US\$1.35bn of government bonds on the Ethereum Blockchain.

In November 2018, Spanish bank BBVA recorded a \$150 million loan to the national electricity grid operator on Ethereum. French bank Societe Generale issued \$112m as a security token on the Ethereum Blockchain in April 2019.

In 2018, the UK's Globacap, fully regulated by the FCA - and named one of the UK's most disruptive companies

asset registration and transfer, recorded on the Blockchain.

In 2017, start-up Nivaura initiated a bond denominated in ether for retail start-up, LuxDeco, under the oversight of the UK FCA, disseminated using smart contracts. A control experiment paid 2.5%pa interest and the Ethereum bond offered 10% interest to off-set the perceived risk of using a rapidly fluctuating cryptocurrency. Germany's Bitbond STO, issued on the Stellar Blockchain, returns 8% yield

In August 2018, the World Bank and Commonwealth Bank of Australia created AUD\$100m bond deal in Project Bond-i; the first time capital was raised from public investors for an end-to-end Blockchain issuance.



- provides investment in tokenised assets, including debt. The token's smart contract automatically fulfils all legal and administrative requirements for the

While Project Bond-i (Blockchain Operated New Debt Instrument) was the first project to disseminate bonds by smart contract on a permissioned Ethereum Blockchain, this has been a fast-replicated model. Russia's telecoms operator, MTS, in early 2018, launched a smart-contract enabled issuance of MTS corporate bonds for the value of RUB 750

billion (US\$12 million) with a 6-month maturity. In March 2019, Germany's finance and justice ministries proposed launching a state-run register to increase the adoption of Blockchain for electronic bonds. The central banks of Afghanistan and Tunisia are considering the issuance of a sovereign bitcoin bond to raise US\$5.8 billion for private sector investment in mining, energy and agriculture and potentially metal futures (such as lithium). Further, the Australian Stock Exchange (ASX) announced on , they were replacing CHES (the system responsible for the clearing, settlement, asset registration, and post trade services critical to the orderly functioning of the Australian share market) with , with an expected target go-live window of March-April 2021.

#### Three Main Use Cases

The use cases for Blockchains can be categorised into three broad applications:

1. The storage of digital records (identities, assets, voting rights, etc)
2. The exchange of digital assets (via direct peer-to-peer transactions which remove the need for middlemen)
3. The recording and execution of smart contracts

With the potential for resolving long-standing challenges such as financial inclusion, payments efficiency, payment system operations and cyber resilience, over 200 banks and over 40 central banks are experimenting with Blockchains to varying degrees of depth, interest and progress.

The inherent functionalities of Blockchains can provide trust between agents with the provision of transparency, enabling a realpolitik approach to international monetary policy. Blockchain can successfully transition the capital structures of economies, create efficient market processes, stimulate market competition and increase trust between disparate stakeholders.

To date, banks have been cutting their teeth on Blockchains in creating efficiencies in cross-border payments, however Blockchains are now enabling financial process to also get ever closer to resolving economic policy concerns.

In May 2019, the Monetary Authority of Singapore - Singapore's Central Bank - and the Bank of Canada undertook a pilot to swap currencies - the first successful trial between two central banks. This inaugural currency swap signified a transition from appreciating distributed ledgers as a method of simply facilitating a near-instantaneous currency swap, to a way of ensuring that central banks inside and outside of the G20 alliance can trust each other.

Several of these applications are being researched and deployed by central banks currently;

The National Bank of Cambodia will be one of the first countries to use Blockchain technology in its national payments system in a full-scale deployment over ten banks by the end of 2019.



partnership with the World Bank created Project BOND-I in 2018, the world's first bond to be created, allocated, transferred and managed through its life cycle using Blockchain technology.

The Bank of Thailand is

exploring CBDC for interbank payments and liquidity management efficiency with Project Inthanon. The Bank of Thailand are making world-first steps in using Blockchains to sell government savings bonds as their first use case before building their national market infrastructure for government and corporate services on the Blockchain.

In 2018, the Bank of Thailand prototyped government bond registration and bond sales on Hyperledger Fabric 1.0 (with an extension layer of HyperLedger Composer to distinguish access permissions for cross-channel communications and create a web interface) with features of; data integration and bookkeeping, real-time information accessibility, smart contracts and reporting and monitoring functions. Bond information was issued in real time and securities account opening and sales validation undertaken using smart contracts before being cast to the network. Payment processing and bond

deposits were made externally, using a custom REST API to integrate the process into the Blockchain.

A dashboard was designed on a need-to-know basis for relevant stakeholders to sight each stage of the registration and issuance process.

Bonds-related processes are complex, involving many parties; selling agents, the bank and securities agents amongst others. In Thailand it can take 15 days for investors to receive their bonds – the Blockchain can reduce this to two days.

The use of Blockchains in capital markets is likely to:

- Reduce risk in securitized products through enhanced data reliability, the improved probability of debt recovery and the potential for automated enforcement
- Enhance and automate recovery rates, reducing debt burdens and improving investor confidence
- Improve data surveillance and market confidence through sighting of real-time balance sheets, end-to-end transactions and digitally signed loan documentation
- Reduce debt-related costs
- Offer increased investor protection through bondholder communication and voting capabilities as recommended by both the SEC and the Structured Finance Industry Group
- Automate reporting in real-time to improve compliance with international commitments and confidence in data accuracy and integrity

## CONCLUSION

Blockchain will be a critical enabler of a new era of transparent governance and efficient capital market structure. While many projects are currently in research and development, it is expected in 2020, to see increased interest and opportunity in Blockchain technology as new projects encourage organisations to consider decentralizing and reconfiguring business processes and operations on the Blockchain.

**While projects are early-stage, there are an increasing number of organisations provisioning on-chain loans. As Blockchain technologies further mature with complementary technologies like the Internet of Things and artificial intelligence, we will see new data structures and management protocols, methods of identification, security and communication integrated with the Blockchain for increased market confidence and yet further reduced risk and fraud.**

**By automating previously manual processes, extracting data from trusted oracles, ensuring data validation by smart contract, stored immutably on a shared public ledger that represents a single source of truth, the Blockchain enables a level of confidence in data reporting that has hitherto not been possible.**

The Hong Kong Monetary Authority is experimenting with multiple use cases including trade finance, digital identity management and KYC/AML processes.

The Central Bank of Brazil is exploring DLT for an interbank payments contingency and resiliency system (Project SALT) as well as a decentralised information exchange platform (Project PIER).

The Bank of France, with project MADRE, has fully replaced its centralised provisioning and sharing of SEPA Credit Identifiers (SCIs) with a Blockchain solution which automates the SCI process using Ethereum's smart contracts.

The Swedish Central Bank (Sveriges Riksbank) is investigating a Blockchain-based "e-krona" to serve as an alternative form of central bank-issued money as cash usage in the country declines.

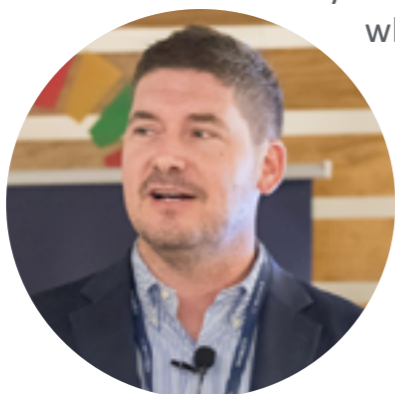
The Commonwealth Bank of Australia in



# *The rise of the* **STABLE TOKENS**

*The Future Is Made of  
Stabletokens*

There's a common misconception about cryptocurrency and the role of blockchain in fintech circles; while considered a minority opinion today – I'm a true believer that how people interact with money will be fundamentally transformed by blockchain technology. The Future Is Made of Stabletokens. If you were to ask 100 people if they've ever



heard of a stabletoken or what it is – you'd be hard pressed to find anyone who knows what it is. If you were to ask people who have owned Bitcoin at one point – I think you'd still find a minority of people who simply have no idea.

If you were to ask people who've heard of Bitcoin what the world's most traded cryptocurrency is – 99 out of 100 would tell you Bitcoin.



## **DANIEL GOULDMAN**

*CEO & Founder of Ternio,  
Enterprise Scale Blockchain*



That would be wrong. The world's most traded cryptocurrency is actually an imperfect derivative of the U.S. Dollar called USDT. It's kind of embarrassing because the information is public for all to see – yet here we are. The reality is that while Bitcoin has been an incredibly successful and well-known use case; it's still just a use case of "cryptocurrency" on

top of the blockchain. The average person / consumer / business owner / government central bank simply does not have the risk profile to move all of their commerce decisions onto a fluctuating asset like Bitcoin: "Sorry – I can't pay rent because Bitcoin just went down by a lot Mr. Landlord." And while there are various versions of

stabletokens – the only real, strong and safe stabletokens are those where there remains a 1:1 ratio of digital tokens that are instantly redeemable for money sitting in a bank somewhere. When you have 100 digital dollars – the value is always 100 dollars ... never more and never less.

#### WHY STABLETOKENS ARE NECESSARY

And this is where the digitization of government issued currencies comes in. Now – most people are also unfamiliar with how our monetary system works; in fact – the majority of "money" that is the US Dollar is actually digital.

Now one might ask why stabletokens are necessary in a world where most money is already digital anyway. But herein lies the issue. In the current system – your money which is mostly made up of ones and zeroes but backed by the

full faith and credit of the government that issued the currency .... the money can only exist in a closed loop system of banks. Banks effectively move 1s and 0s back and forth between one another and when a person wants to redeem those 1s and 0s into actual money – the banks give cash via a fractional reserve system.

#1 - With cryptocurrencies

– the value is no longer trapped in a closed loop system of banks. Users can pass tokens back and forth to each other without requiring an intermediary to maintain custody and while still allowing for a digital, frictionless conversion in commerce. Some have a hard time understanding why a stabletoken is necessary in a world with a fractional reserve system; however – those critics' core concern is usually boiled down to a debate between Austrian School of Economics support of the Gold Standard and Keynesian economics (which has no gold standard). Without getting too far off the main point – it's an important footnote that the United States has had five depressions in its history and every single one of them has been under the Gold standard but I digress.

#2 – With cryptocurrencies – people have control over their money. And because you do not rely on a third-party custodian (like a bank, Venmo or Paypal) to hold your money for you – your money can not be

taken from you by anyone unless you are the victim of a social engineered hacking. There is no government in the world strong enough to take your cryptocurrency away from you with the proper security procedures. This isn't to be confused with anonymity or privacy; those are two very different things.

#3 – Being in cash is quite expensive for people who aren't wealthy. Going back to the first point – there have been people incorrectly argue there's no point to having a stabletoken built on top of a fractional reserve system, but those arguments always sound like a person who's point of view is either grounded in zealotry or the privilege of someone who's never experienced how badly the system screws people who deal in cash. The money handlers charge exorbitant fees for people trying to remit cash or receive cash. The money handlers effectively operate as gatekeepers in a world where none are needed any longer. Whether a person is working for \$9 an hour

in the United States or whether a person is working for \$400 US Dollars a year in the Dominican Republic – people having the ability to send and receive their own money without unnecessary middlemen is going to have a very real and meaningful impact for billions of people around the world.

And while it's a regular discussion to talk about the unbanked or underbanked – the reality is that people are only unbanked because banks don't consider those human beings to have any business value. Well – soon those human beings are going to be able to access all of the normal banking services one might need, and those previously unattractive customers will no longer view the banks as having any value to them.

#### CONNECTING THE DIGITAL CURRENCIES TO THE MERCHANT NETWORK

People say the cell phone is the real killer application and they're right. In the future –



we'll see people sending money from cell phone to cell phone – peer to peer. Those digital assets will be connected to a universally accepted merchant network like a Visa or Mastercard or some country specific payment mechanism like M-Pesa in Africa, the upcoming PIX in Brazil or any number of other similar payment solutions.

Consumers will be able to send or receive digital money that will be integrated into their phone's wallet or an online wallet

like BlockCard which will be directly connected to a Visa or Mastercard exactly like a debit account would function. It's a revolutionary shift to be able to setup an account, receive funds or fund yourself, complete KYC and have access to a funded card on your phone in a matter of five minutes.

There is no existing fintech or banking solution that can presently do that. This type of solution is going to save consumers billions in hidden fees and allow for a more frictionless form of commerce for consumers.

#### WHAT THE FUTURE HOLDS

Over the past 10 years – there has already been a marked decline in retail banking locations. What



used to be a significant advantage in terms of convenience and reach is now a disadvantage with fixed costs and declining customer traffic. Customer behaviors have changed in the past decade and are about to change more remarkably still over the next several decades.

While banks will always have a role – they have ceded much of their natural territory to “fintechs” and if the CEO of Wells Fargo is to be believed – these banks will need to transition to “technology companies” vs. what they presently are.

Consumers will have more choices. They will have the ability to control their own money without need for a custodian en masse. Consumers will interact with cryptocurrency as digital dollars and they won't even know it.

**In a somewhat dystopian way - governments will use the nature of blockchain technology to track the movement of all user funds in a way that will be abused. And – perhaps more importantly – it will likely lead to ethical/legal challenges as to what the fundamental rights that citizens have over the control of their own money.**

# Solving accumulated problems at work

## GET OUT OF THE OFFICE AND GO TO THE NATURE



**DR. MILAN  
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**T**he way of doing business in the past was that the director get to the office and look at his work table in the morning and then start to think about what he has to do, that way doesn't exist anymore. Today, the directors think 24 hours daily about their business.

The worst is the fact that they don't think about the actions they have to do for the development of their company in the future, but about present and how to get enough work and about finances and payments. Many

directors think only about the problems and more they think about them, the more problems arise. It has always been and still it is the biggest mistake of the directors. How that happened? Before this turbulent period in the economy, there was a good period in the business in

→ *Paradoxically, the constant thinking about the problems doesn't solve them but make them bigger. As when you fall in the hole and you don't see the way to get out. If you take the look about your problem from the top, it will be easier to find the solution and a way to get out.*



which the directors were focused on how to make more money and where to invest. However, nobody thought to invest in oneself, in the personal development and to find more time for sport, art or entertainment. They all have worked 24 hours daily and invest in the real estates, cars and other material things. The role of the director isn't to spend 24 hours daily on work and how to solve the problems that are just emerging but to think about the future and the way of how to run the company. But it is necessary to make time for it. The director has to work no more than 10 hours daily, and in a way that the half of the working time, he is solving the problems and fulfilling duties, and the

other half of the working time, his mind has to be concentrated on the future. He needs to have time and a place for meditation or relaxation. As the director of the company is the first strategist and salesman, his mind has to be free, and not occupied by problems.

Psychophysical condition is needed

To let our mind free, it's necessary to invest in it. Around ourselves, we have to have excellent workers, everything needs to be under control and the work of the directors has to be so organized that they have enough free time. For that reason, a good psychophysical

somebody watch it from outside, he sees the solution how to come out of the hole. For that reason, the director should never have a lot of problems, because when it's time to solve them, he is looking the problem, and is not looking for a solution. If his mind is free, soon he'll be seeing the solution. All that is needed to do now, when we're in the hole is to try to find the way to get out? At first, it's necessary to make an order in our head and some space to think about the solution. For that, it's necessary to change the lifestyle.

The problems in our heads are bigger that they actually are. They shouldn't be solved only in the offices. We should firstly go to the open air and focused our thoughts on the other side, start to do physical activity. The pain that we have in our heads needs to be redirected to "another pain". It's not a pain that we caused to ourselves by breaking the door with our foot, but it's a pain caused by sport. Many directors make space in the head using alcohol or drugs, but this isn't clever and for the long runs. And for that reason, the sport is the best friend for solving problems. The

director has to include also the free time in his schedule. If we have a lot of papers in front of us, we can't see anything over it. The same happened also in our head, we need to have some order and enough empty space, otherwise we are in the middle of chaos and we don't know where to go.

#### **Good strategist Find time to plan**

The directors, that make investment on themselves and choose the right partners in which they can have confidence, can spend a half of the time on solving the daily problems, and the

other half of working time on the planning of the future of the company. The director of the company is its first strategist.

#### **Sport releases thoughts**

The problems in the business must be solved only in the office. It's necessary going to the nature and deal with physical activity, exercise. In his working schedule, he has to include the free time, because in that way, his thoughts are focused on one other side. In that way, the mind gets

free to solve the problems. As burdened with problems, people are in the middle of the chaos by which is difficult to find a way to exit.



If he wasn't so burdened, but free, he could be able to find the solution. It's as in a private life - when our friend has some problems, we'll help him, and when we have problems, it's hard to help ourselves because we are in the middle of the problem. Or, when we fall in a hole, we try to look out, to find the exit and we don't see the solution, and when



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