DOES INDIA NEED CRYPTO REGULATIONS?

BlockchainedIndia

June 2019

TABLE OF CONTENTS

Foreword by Akshay Aggarwal

Blockchained India started around three years ago as an ecosystem organisation focused at the development of blockchain infrastructure. The idea was to bring talented backend developers on a common platform and help them evolve towards building infrastructure offerings for Distributed Ledger Technology. While the initial focus of Blockchained India remained on blockchain beyond bitcoin, we soon realised the rising importance of public blockchain and its use-cases, and the end-to-end need of private blockchains.

In the first half of year 2018, our blockchain community members began to demand more support in regulatory framework around public blockchain. This led us to learning the requirements of tokenised networks. As the negative impact of complete ban on crypto currencies by the Reserve Bank of India became evident, we realised that a better way to work towards helping the community members is to get a first hand understanding of their needs and beliefs, and then help them evolve further in their journey. The cryptoregulations roadshow of open town halls in seven cities of India was our approach to analyse the concerns of our community members and other individuals associated with the blockchain domain.

This report is premised on our interactions with the public through open town hall meetups, and further critical analysis of these discussions. Based on it, we have provided our recommendations to be considered by the concerned authorities in designing a regulatory framework that helps cater to the innovation in the industry and helps it grow towards adding value to the economy of India.

I request the Government of India to be open and fair towards understanding the opinions and concerns of stakeholders in blockchain. The true impact of the technology can only be realised by allowing the contributors and industry stakeholders to build on their ideas unrestrictedly.

Jai Hind!

Akshay Aggarwal

Co-Founder, Blockchained India

Foreword by Stefano Colombu

It is with great pleasure that we release this report at India Dapp Fest today. It is the result of an extraordinary team effort. It started two years ago, with the careful creation and scale-up of communities of blockchain practitioners in Delhi, Mumbai, Bangalore, and Hyderabad by Akshay Aggarwal, Manav Ailawadi and the Blockchained India team. During this time, we managed to build a bottom-up approach to create a knowledge sharing platform, invited global thought leaders to inspire the community, and listened to the needs and wants of many stakeholders.

Amid enthusiasm and creativity around blockchain technology, many saw regulations in India as a bottleneck for entrepreneurship and innovation to flourish. It is against this backdrop that in March 2019, we organized the Town Hall series, an attempt to aggregate industry regulatory suggestions. The insights of these meetings form the base of this report and the core of our recommendations to the Government of India and other regulatory stakeholders.

I am grateful to Akshay Aggarwal, co-founder Blockchained India for giving me the opportunity to manage the team who contributed to this research. Parina Anand, Blockchained India, authored the *Introduction*. Anirudh Rastogi and Ratul Roshan, Ikigai Law, authored the section *Blockchain and Cryptocurrencies India's Regulatory Framework*. And, based on the insights from the Town Hall sessions provided by our team, they also authored the section *Recommendations to the Government*. Akshay Agrawal authored the *Swiss Blockchain Policy Tour: A Note from the Co-Founder.* Swati Gautam, Blockchained India, edited and proofread the report. The part *Blockchained India Open Town Hall Sessions – Key Takeaways* is based on the records and transcripts of each Town Hall session provided by Manav Ailawadi, Blockchained India.

Blockchained India wants to express its gratitude to all of those who contributed to the report and to the 400+ people who participated to the Town Hall sessions. Each one of these added his/her bit to the findings of this report. Hopefully, the insights will immensely contribute to make India a more crypto-friendly country in the near future.

We genuinely hope that the Government of India, the Reserve Bank of India (RBI), the Security and Exchange Board of India (SEBI) and any other relevant stakeholder would find the contributions of this report relevant. We strived to make the recommendations actionable, and to provide ready-made solutions to implement a more crypto-friendly regulation without further delay.

Loyal to our mission, we will take every possible step to make sure the government finds venues to hear out our recommendations. Finally creating a regulatory framework that mitigates risks, and an environment where decentralization, innovation and entrepreneurship can thrive and unlock new economic opportunities.

Thank you and regards,

Stefano Colombu

Public Policy Head, Blockchained India

Foreword by Anirudh Rastogi

The future of the emerging technology industry in India looks promising on account of the enthusiasm with which its potential has been tapped into by entrepreneurs and consumers alike. India's transition to web 3.0 and to other innovation in the NBRIC cluster (nano, bio, robotics, information and communication technologies, and cognitive sciences) will only be impeded by the lack of an innovation- facilitative regulatory regime. The recent migration of trailblazing blockchain ventures from India to friendlier jurisdictions is a discouraging example.

Promoting innovation should be an essential end-goal of regulation in the modern economy, since innovation has the potential to accelerate social and economic gains for all. Phil McKinney, in his discussions on the 'innovation economy' argues that "*while in older economic models innovation is seen as an independent force, in innovation economics, innovation is viewed as a central tenet that should be encouraged by government policies and spurring knowledge, technology and entrepreneurship should be the main goal of economic policy.*" I suggest, accordingly, that an ideal regulatory framework is one with a bi-focal approach, one which maintains focus on managing risk but does not lose sight of its long-term objective of promoting innovation in the industry.

That being said, one can empathise with the present-day State that is compelled to regulate a rapidly evolving, dynamic and complex technology sector with little data, analysis and domain knowledge. Understandably, regulators often err on the side of over-regulation, relying on inflated estimations of risk and an under-estimation of the potential of the technology. The natural consequences of such an intervention is that even good use-cases emanating from a new technology are killed before they can be made accessible to the public. Further, bad use-cases are pushed underground and beyond regulatory oversight.

This report is significant in that it attempts to take a nuanced view of the potential and risks of the blockchain and cryptocurrencies industry, and makes important suggestions for a regulatory framework that could achieve the necessary balance. In doing so, it draws inspiration from mechanisms that have been implemented elsewhere and takes suggestions from a variety of stakeholders. As a broader principle, the report recognises that, when regulating emerging technology it is imperative to shift from hard-regulation to a softer, more agile form of regulation that is innovation-friendly.

I hope that this report would achieve its intended purpose.

Anirudh Rastogi

Managing Partner, Ikigai Law

1. Executive Summary

A Regulatory Ban Dwarfs Blockchain Ecosystem Development

The Reserve Bank of India (RBI) circular titled *"Prohibition on dealing in Virtual Currencies (VCs)"* issued on 06 April 2018, created a 'ring-fence' for regulated entities from entities or any person dealing in crypto-assets. It gave a period of three months from the date of the issuance to put an end to any such engagement. The Circular has been challenged by multiple crypto-asset enthusiasts, primarily before the Supreme Court of India. The Supreme Court is working with multiple stakeholders to come up with a regulatory framework for crypto-assets in India. The matter is now adjourned for hearing in July 2019.

By blocking the channel between fiat currency and crypto currencies, the RBI circular *de facto* created a ban on the development of the blockchain and cryptocurrencies industry in India.

Blockchained India Town Hall Sessions Aggregated the Industry Voice

In March 2019, Blockchained India hosted a series of meetups in Delhi, Mumbai, Bangalore, and Hyderabad. Anyone willing to share a perspective on "Does India need Crypto regulations?" was allowed to speak. We welcomed opinions both in favour or against cryptocurrencies. A total of 400+ people attended the Town Hall sessions. Considerations on talent and brain drain risk, attraction of investment and economic development were advanced by those speaking in favour of cryptocurrencies. Lack of investors' protection, money laundering and risk of scams where the arguments advanced by those speaking against cryptocurrencies. We used these insights to shape our recommendations to the government.

Policy Recommendation 1: The term 'cryptocurrency' should be defined authoritatively

We believe it is essential to distinguish 'cryptocurrencies' from the 'virtual currencies' ("**VC**"). This is because regulatory instruments constantly use these terms and their grammatical variants interchangeably, which is problematic given that different terms may denote very different products.

To prevent confusion in this regard and to ensure that regulatory directives are more effective, it is imperative that a more specific definition of the term 'cryptocurrency' be devised. This is elementary and would precede all other efforts to regulate cryptocurrencies in India.

Policy Recommendation 2: Crypto-asset exchanges may be mandated to comply with consumer protection and transparency norms

Crypto-asset exchanges could be mandated to fulfill KYC requirements as well as using government issued and recognised identification instruments. In this direction, the government could leverage the benefits of 'electronic KYC' ("**e-KYC**") authentication procedure provided by the 'Unique Identification Authority of India' through 'e-KYC user agencies'. Measures towards 'anti-money laundering' ("**AML**") and 'countering financial terrorism' ("**CFT**") compliances could be made mandatory for crypto-asset exchanges.

To build faith and transparency with government agencies and independent regulators, a dashboard may be created by each crypto-asset exchange. This dashboard shall provide real time data to government agencies and regulators on users of crypto-asset exchanges.

Policy Recommendation 3: Crypto-asset exchanges may be required to comply with a self-regulatory framework verified by the RBI

Crypto-asset exchanges in India could formulate an industry-wide self-regulatory framework, which would periodically revise and advise on best practices to be followed by these exchanges. The RBI may certify those exchanges which successfully comply with this framework. This would promote healthy competition for this certification amongst exchanges since it implies a modicum of credibility and security on the exchange.

POLICY RECOMMENDATION 4: CRYPTO-ASSET TRADING SHOULD BE LIMITED ONLY TO WHITELISTED ADDRESSES HELD BY CONSUMERS

The government may mandate a centralized database of verified addresses of users who own and trade in crypto-assets. This would serve the dual purpose of providing transparency to the relevant oversight bodies to monitor flows of crypto-assets and would also restrict the trade in crypto-assets to verified users.

POLICY RECOMMENDATION 5: CONSUMERS MAY BE SAFEGUARDED THROUGH MEASURES SUCH AS CRYPTO-ASSET INSURANCE, AWARENESS AND EDUCATION DRIVES

A conducive regulatory framework for insurance products for crypto-assets may be promoted in India. Such products may insure holders of crypto-assets against hacking and cyberattacks. Awareness drives could be undertaken to educate users on the prerequisites for legally using crypto-asset exchanges, the risks associated with trading, and other important considerations.

DAPP FEST AIMS TO CREATE NEW CONSENSUS WITH THE GOVERNMENT

India Dapp Fest from 11–15th June 2019 at Bangalore. We will be celebrating the spirit of decentralisation and the amazing opportunities this ecosystem has to offer to distributed app creators. It will be a platform to create a new level of conversation with the government and laid the foundation for a more crypto-friendly regulatory framework.

2. Introduction

From the great crypto bull run of 2017 to the tremendous crash of 2018, the nascent blockchain ecosystem has seen a lot in a short span. The evolution from protocol research to the launch of ICOs has all been in anticipation of having a large consumer base which uses and builds on the blockchain. The year 2019 will be the one when blockchain evolves from being a mere buzzword to something useful and tangible. We will finally see projects bearing fruit and new applications being realised just as the number of blockchain developers continues to surge.

India has always been a tech hub with a vast pool of developers. Unfortunately, this has not translated into successful entrepreneurship ventures. According to a market analysis carried out by Dappros, a London-based blockchain consulting firm, India is home to 19,700 developers, the second highest number of blockchain developers in the World. It puts us at an advantage over other countries in terms of developing blockchain applications. The right policies and infrastructure could foray India into the list of the World's leaders in blockchain by 2023.[1]

Blockchained India has always worked towards building a thriving ecosystem for people to learn, grow, and connect with other blockchain practitioners. While the World was working on creating new blockchain based protocols and infrastructure, the Indian blockchain community was still in the learning phase. Now that the World has moved on to an application based approach to blockchain with a focus on building decentralized applications (dApps), the Indian developer community must capitalize on it. Having experienced the zeal of the Indian blockchain ecosystem first-hand, we at Blockchained India recognize the needs of our developers and feel that our community should not miss the chance to seize this opportunity. India has the potential to benefit from jobs, capital investment, and local innovation in the blockchain universe if given the right direction and motivation.

With this vision, we are proud to launch the India Dapp Fest from 11–15th June 2019 at Bangalore, an event with the entire Indian Blockchain Ecosystem as well as top global DLTs visionaries and influencers. It will be a five-day festival packed with workshops, panel discussions, talks, hackathons, and networking events along with an experienced line-up of speakers. While we are gearing up for one of the biggest events for the blockchain space in India, we cannot ignore the ecosystem's immediate needs. We realise that to make India an important blockchain hub, along with skill development and knowledge sharing, we need encouraging policies and infrastructural support. To bring together the entire crypto ecosystem and give them a platform to express their opinions on crypto regulations in India, Blockchained India organised a roadshow in March around the country. We ran open town halls in Delhi, Mumbai, Bangalore, and Hyderabad to hear the voices of the crypto community.

The insights of this journey form the core of this report and the ground of our policy recommendations. We believe that listening to the blockchain industry-voice represents an original and crucial contribution to the national debate around innovation in general, and blockchain and cryptocurrency in particular. In our journey, we have had the opportunity to interact with many entrepreneurs, IT professionals, investors, lawyers, researcher, and blockchain enthusiasts. Many of them share the same concerns of the Government when it comes to taxation, money laundering, traceability, frauds, etc. Yet, we also found creativity and proactivity in proposing solutions to mitigate negative impacts and allow the ecosystem to grow.

The time is long overdue to encourage the Indian regulators and policymakers to work towards crypto regulation in India and bring optimism to the ecosystem, making it conducive for growth and innovation. These are crucial and exciting times for the blockchain space in India, and now is the time to act!

3. Blockchain and Cryptocurrencies — India's Regulatory Framework

The first instrument to deal with crypto-assets in India was issued by the RBI on 24 December 2013 ("**Press Release No. 1**").[2] It is noteworthy that this press release came five years after the creation of the first Blockchain based crypto-asset, namely Bitcoin.[3] As the title of Press Release No. 1 (*RBI cautions users of Virtual Currencies against Risks*) suggested, the RBI was wary of the crypto-assets and their growing use in India, which may have prompted this press release to begin with. One may argue that RBI's apprehension was premature and unfounded and could have been addressed adequately by interfacing with industry players and other stakeholders. Press Release No. 1 "*cautioned the users, holders and traders of Virtual currencies (VCs), including Bitcoins, about the potential financial, operational, legal, customer protection and security related risks that they are exposing themselves to.*"[4]

This was also the first time an Indian regulatory body acknowledged the developments relating to what they called a 'Decentralised Digital Currency' or 'Virtual Currency (VC)' and their usage or trading in the country. These included crypto-assets such as, Bitcoins, Litecoin, BBQcoins, Dogecoins etc.

Press Release No. 1 explicitly stated that the "*creation, trade or usage*"[5] of crypto-assets was not authorised by any central bank or monetary authority. Further, it stated that no regulatory approvals, registration or authorisation was obtained by entities undertaking activities related to crypto-assets. As a result, all individuals and entities who were dealing with crypto-assets were doing so at their own risk.

The risks pointed out by the Press Release No. 1 included risks from hacking, cyber-attacks, absence of a grievance redressal mechanism, volatility and unintentional breaches of norms aimed at anti-money laundering and countering financial terrorism.[6]

However, at the end of the document, the RBI stated that it was in the process of examining issues associated with the crypto-assets from the lens of extant legal and regulatory frameworks. Additionally, it also stated that it was studying relevant laws of other jurisdictions. This indicated that the RBI may not be completely averse to the use of crypto-assets.

Four years later, this assumption was wrong. The RBI published another the press release on 01 February 2017 ("**Press Release No. 2**").[7] Press Release No. 2 cited Press Release No. 1 and reiterated the stance it took therein. The RBI reiterated that it did not give any licence or authorisation to any entity to deal with any crypto-asset. Press Release No. 2 did not have any language to the effect that the RBI was in the process of studying crypto-assets or that it was working to come up with a framework to regulate the same.

In February 2017, due to opacity in the regulatory framework, crypto-exchanges came together in a bid to regulate themselves and formed the Digital Assets and Blockchain Foundation of India ("**DABFI**").[8] The DABFI aimed to be the regulatory regime for crypto exchanges in India. It attempted to assuage the RBI's concerns by implementing extensive anti-money laundering ("**AML**"), know your customer ("**KYC**"), suspicious transactions reports ("**STR**") and combating financing for terrorism ("**CFT**") guidelines for its consumers.[9] Further, it advocated the establishment of a task force to oversee the activities of crypto-exchanges.[10] The DABFI hoped that these measures would address the concerns of the RBI and the government of India.

In November 2017, the RBI released a Report of the Working Group on FinTech and Digital Banking ("**RBI Working Group Report**") in which it briefly touched upon crypto-assets.[11] The RBI Working Group Report stated that crypto-assets did not have a substantial influence on financial services. It stated that:

"*At the moment, DCs (Digital Currency) schemes are not widely used or accepted and they face a series of challenges that could limit their future growth. As a result their influence on financial services and the wider economy is negligible today, and it is possible that in the long term they may remain a product for a limited user base on the fringes on mainstream financial services.*"

However, the above is only an observation and did not impact the regulatory framework for crypto-assets in India in any manner.

On 05 December 2017, the RBI released another press release ("**Press Release No. 3**").[12] Press Release No. 3 cited the earlier two press releases and reiterated its concerns conveyed in the earlier press releases. The language the Press Release No. 3 observed that there was a "*significant spurt in the valuation of many VCs* [crypto-assets] *and rapid growth in Initial Coin Offerings (ICOs)*". Evidently, the increasing popularity of crypto-assets in India was concerning to the RBI.

Going forward, on 05 April 2018, the RBI released its 'Statement on Developmental and Regulatory Policies' ("**RBI Statement**").[13] In this document, the RBI voiced its intention to protect or 'ring-fence' regulated entities from entities dealing in crypto-assets. It prohibited all RBI-regulated entities from dealing with or providing services to any individual or business entity engaged with crypto-assets. Further, those regulated entities which had ongoing relations were asked to exit the arrangement within a specified period of time, which was to be specified in a separate circular.

The very next day, on 06 April 2018, the RBI issued a circular ("**RBI Circular**") titled "*Prohibition on dealing in Virtual Currencies (VCs)*".[14] By this circular the RBI explicitly prohibited RBI-regulated entities from dealing in crypto-assets themselves or from providing services to any person or entity dealing with crypto-assets. It even laid down the scope of said prohibited services. These included "*maintaining accounts, registering, trading, settling, clearing, giving loans against virtual tokens, accepting them as collateral, opening accounts of exchanges dealing with them and transfer / receipt of money in accounts relating to purchase/ sale of VCs* [crypto-assets]."[15]

The RBI placed this blanket prohibition drawing authority from section 35A read with section 36(1) (a) of Banking Regulation Act, 1949, as well as section 56 of the Banking Regulation Act, 1949. It also relied on sections 45JA and 45L of the Reserve Bank of India Act, 1934 and Section 10(2) read with Section 18 of Payment and Settlement Systems Act, 2007.[16] As a consequence, banking companies and co-operative banks (regulated under the Banking Regulation Act, 1949), non-banking financial institutions (regulated under the Reserve Bank of India Act, 1934) and payment systems (regulated under the Payment and Settlement Systems Act, 2007) were prohibited from facilitating any person or entity dealing with or settling crypto-assets.

The RBI Circular gave a period of three months from the date of the issuance of the circular to RBI-regulated entities to put an end to any such engagement.[17]

The RBI Circular has been challenged by multiple crypto-asset enthusiasts. These challenges have primarily been before the Supreme Court of India. Accordingly, the Supreme Court of India has clubbed together cases[18] which seek directions to regulate crypto-assets in India,[19] which seek clarity on the legal position on crypto-assets in India[20] and which challenge the RBI Circular.[21] The most important question for consideration before the Supreme Court today is the constitutionality of the RBI Circular. The RBI Circular has been challenged on the ground that it violates Article 14 (equality before law and equal protection of law), Article 19(1) (g) (fundamental right to practise any profession, or to carry on any occupation, trade or business) and Article 21 (protection of life and personal liberty) of the Indian Constitution.[22] The Supreme Court is working with multiple stakeholders to come up with a regulatory framework for crypto-assets in India. The matter is now adjourned for hearing in July 2019.[23]

4. Blockchained India Open Town Hall Sessions — Key Takeaways

In March 2019, Blockchained India hosted a series of meetups in Delhi, Mumbai, Bangalore, and Hyderabad. We adopted a Town Hall format. Anyone willing to share a perspective on "Does India needs Crypto regulation?" was allowed to speak. We welcomed opinions both in favor or against cryptocurrencies. Q&A followed each presentation. Those who could not attend the meetings could voice their regulatory suggestions remotely. Driven by the enthusiasm around the Town Hall sessions, group of volunteers spontaneously organized similar meet-ups in Panjim, Gandhinagar, Calcutta and Pune. The findings of these meet-ups are incorporated in those of the metro cities.
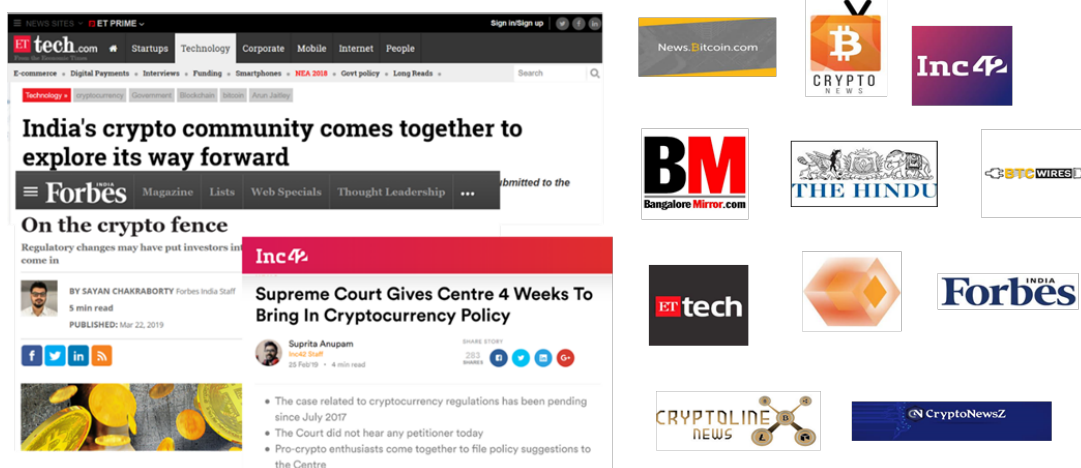

Figure 1- Selected articles and media partners

The format is a national attempt to aggregate the industry voice. Blockchained India leveraged its existing network, and a media campaign to attract as many different views as possible. A total of 400+ people attended the Town Hall sessions. The meetups in Mumbai and Hyderabad registered the largest number of participants, 114. Bangalore and Delhi followed with 95 and 91 attendees. On average, each town hall session engaged 101 people per meetup.
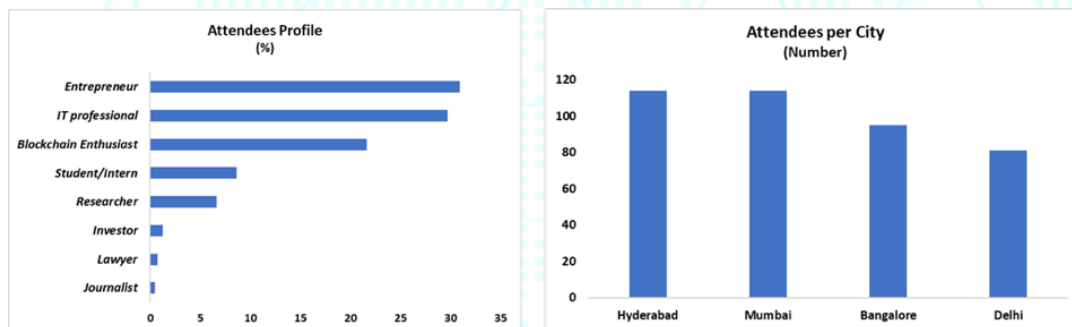

Figure 2 - Town Hall Sessions - Attendees per City and Attendees Profile

Entrepreneurs and IT professional combined constituted more than 65% of the attendees. They brought a hands-on perspective on the implications of the current regulatory framework. 247 people made up these two groups and represented the principal target of our sessions.

Blockchain enthusiast made up 21.7% of the attendees. People who recently started to learn about blockchain technology are part of this group. Their presence witnesses the growing interest around blockchain technology. Students and interns constituted the fourth most significant segment of the meetups (8.6%). They belong to IT programs or are interns at a technology company or start-up. This group represents the growing talent of India. Researcher, investors, lawyers, and journalist belong to the remaining smaller groups of attendees.

Figure 3 - Meetup

The next section of the report highlights the key findings of the sessions. We used those to build our recommendations to the government.

4.1. DELHI

Entrepreneurs formed the largest group of the first meetup of the Town Hall sessions, followed by blockchain enthusiasts, IT professionals, students or interns, researchers, lawyers and investors. The Circle by Hunch hosted the meet-up in Delhi on 2nd of March 2019.
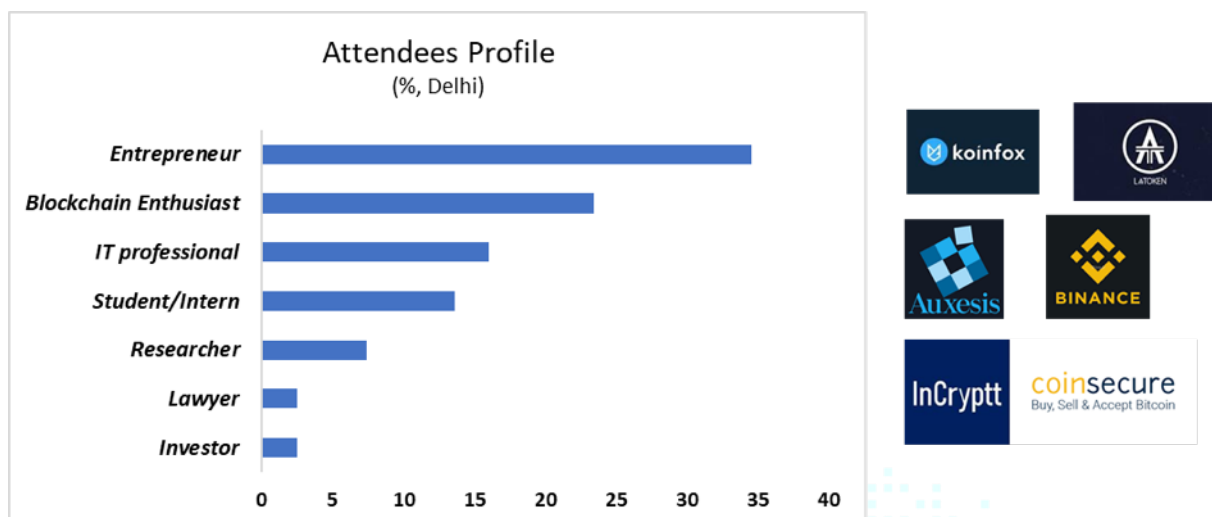

Figure 4 - Delhi Town Hall Session - Attendees Profile and selected participating start-ups

Some entrepreneurs pointed out the importance of regulating cryptocurrencies exchanges to allow cryptocurrencies investments. The creation of a whitelist of exchanges and trades and the application of KYC rules was the solution that gained the most substantial consensus among them. Others shared the opinion that the current ban on cryptocurrencies is pushing entrepreneurs to register companies offshore, and in turn, negatively affecting innovation and entrepreneurship in the country. An entrepreneur operating from India shared how he is finding it difficult to hire talent because potential employees are not able to justify their role to their family.

Additionally, it was specified how traders and investors in cryptocurrencies from India have access to non-India exchanges, and this represents a taxation issue. In fact, under the current regulatory framework, taxation for cryptocurrencies capital gains seems impossible. If exchanges would be allowed to operate in India, a speaker suggested to create a real-time dashboard and give access to regulatory authorities to the trades. It would allow any taxation authority to scrutinize trades and individuals.

Arguments against cryptocurrencies highlighted its usage in the black market, cryptocurrency exchange frauds, Ponzi schemes, terrorism financing and crypto extorsion in the form of ransomware hacks.

BELOW ARE SOME KEY QUOTES OF THE MEET-UP:

"Uber became so big so fast, beating the speed of regulatory framework that they had to form policy around it and legitimise the model."

Varun Sethi, Founder TheBlockchianLawyer.in

"Silk Road portal was shut down by FBI was the largest black market. The amount of value of BTC used on the dark market was 9.2 million USD."

Ankur, speaking against cryptocurrencies

"Protecting small and naive investors is maybe their reason for doing what they [RBI] did. But that has killed the whole ecosystem."

Aditya Dev Sood, Startereum

"We, as a community, should think about how we can help the government because that's the only way that they will feel that they should come in and do something about it."

Aman Kalra, co-founder, Coinsecure

"If we believe in the long term future digital assets, we should continue to talk to people, have social media campaigns. Let us reach out to the masses, and we need a Tanmay Bhatt (like the save the internet campaign) to break this down and get to more people."

Anirudh Rastogi, Founder-Ikagai Law

4.2. MUMBAI

Entrepreneurs represented the largest group of the second Town Hall sessions, followed by IT professionals, blockchain enthusiasts, students and interns, and researcher. 91 Springboard (BKC) hosted the meet-up in Mumbai on 9th of March 2019.
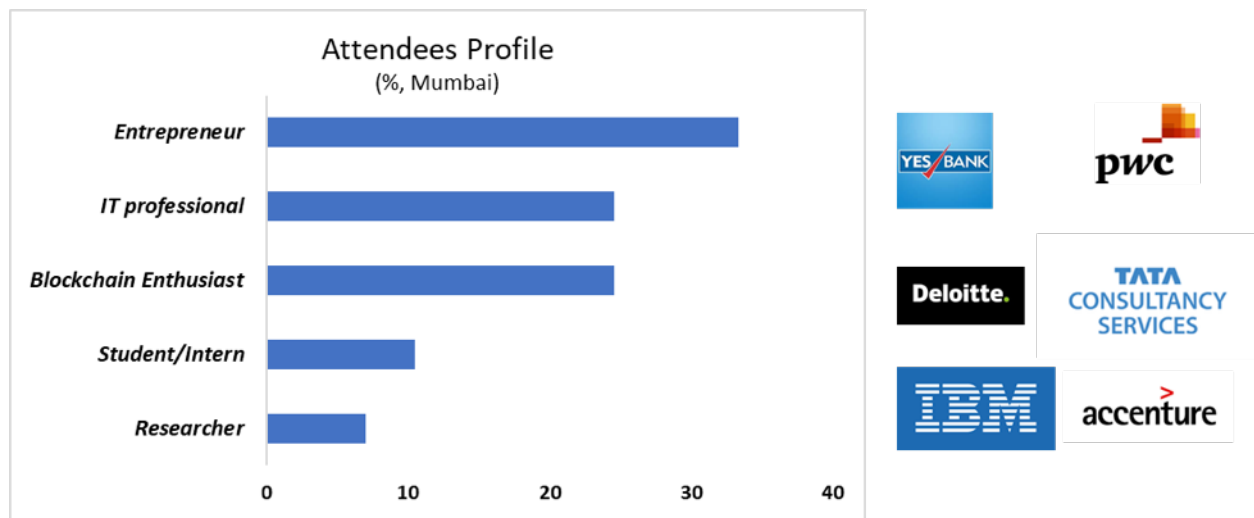

Figure 5 - Mumbai Town Hall Session - Attendees Profile and selected participating corporates

An entrepreneur suggested that regulators should let the industry self-regulate the sector. And, as the technology matures, collaborate with the industry to design a regulatory framework. Others insisted on involving the regulators since the early stages and proposed a regulatory sandbox. It would create a safe environment to test the technology and design the regulation. A technology lawyer presented his research on how other jurisdictions are approaching regulation. He suggested a split of responsibilities between regulators and the government. According to his thesis, the RBI designs the framework; the SEBI defines investment protection rules, and the Ministry of Corporate Affairs regulates the formation of crypto companies.

According to an investor, India has one of the highest developers pool in blockchain technology. But, talent considers the cryptocurrency ban as a prohibition in decentralization. As a result, fewer people are entering the sector in India, and Indians are moving to crypto-friendly countries. Also, he mentioned that regulatory uncertainty makes it hard to attract equity investments.

A speaker mentioned the number of scams as an argument against cryptocurrencies. The same speaker also said that the number of crypto-scams is less than the number of scams in fiat currency. He suggested that industry players and anyone involved in the sector spend time educating others about the technology.

BELOW ARE SOME KEY QUOTES OF THE MEET-UP:

"Banning cryptocurrencies is taken as a ban in decentralization, and fewer people are participating in the industry in India, many are moving abroad."

Saurabh Gunjal, General Partner, The Merkle Capital

"In Estonia regulations began as guidelines. The purpose of these guidelines is to function as a regulatory sandbox until full-fledged laws are implemented."

Nirav Bakshi, partner Skyline Legal

"Blockchain and cryptocurrency can disrupt all the industries which the internet couldn't revolutionize."

Yash Dahenkar, Co-Founder Bitgenie

4.3. HYDERABAD

IT professionals constituted the largest group of the third Town Hall sessions. They were followed by entrepreneurs, blockchain enthusiasts, students and interns, researchers, investors, lawyers, and journalists. T-Hub hosted the meet-up in Hyderabad on 16th of March 2019.
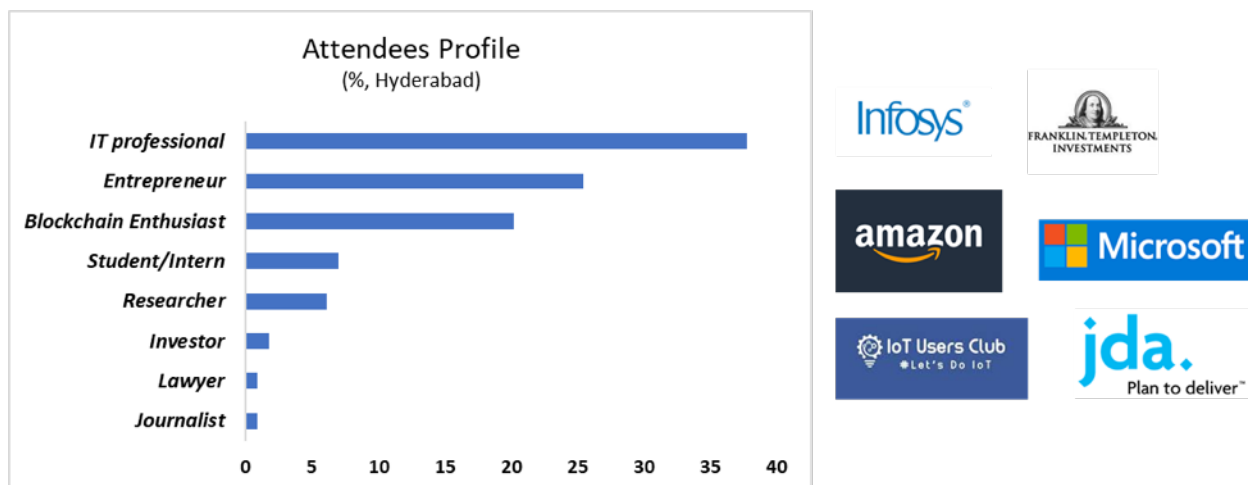
An entrepreneur suggested blockchain adoption to settle land and real estate disputes. This category amounts to around 30% of the cases in the country. Land and real estate tokenization will be more beneficial than digitizing land records. The token splits the property into small units, providing an appropriate dispute settlement mechanism. Another entrepreneur suggested focussing on Security Token Offerings (STOs) regulation. Malaysia, Singapore, and Japan are regulating this security-linked fundraising. These countries are case-studies to refer to. A university professor highlighted the importance to consider blockchain and cryptocurrency together. Decoupling those can lead to IT talent loss. Also, this symbiotic relationship is more likely to generate more innovation for the country.

A speaker mentioned cryptocurrency price manipulation as an argument against cryptocurrencies. Below are some key quotes of the meet-up:

"The best possible solution is that the blockchain community supports lawyers, regulators, judges, economists on what crypto can or cannot do and so about blockchain."

Prof. Bhagwan Chowdhry, Professor of Finance, Indian School of Business (ISB)

"Regulations should provide a framework on how cryptocurrencies can be spent and how the government can keep track of this decentralized system."

Sai Teja, Founder Launch my ICO

4.4. BANGALORE

IT professionals represented the largest group of the fourth Town Hall sessions. Followed by entrepreneurs, blockchain enthusiasts, researchers, students and interns, journalists, and investors. 91 Springboard hosted the meet-up in Bangalore on 30th of March 2019.
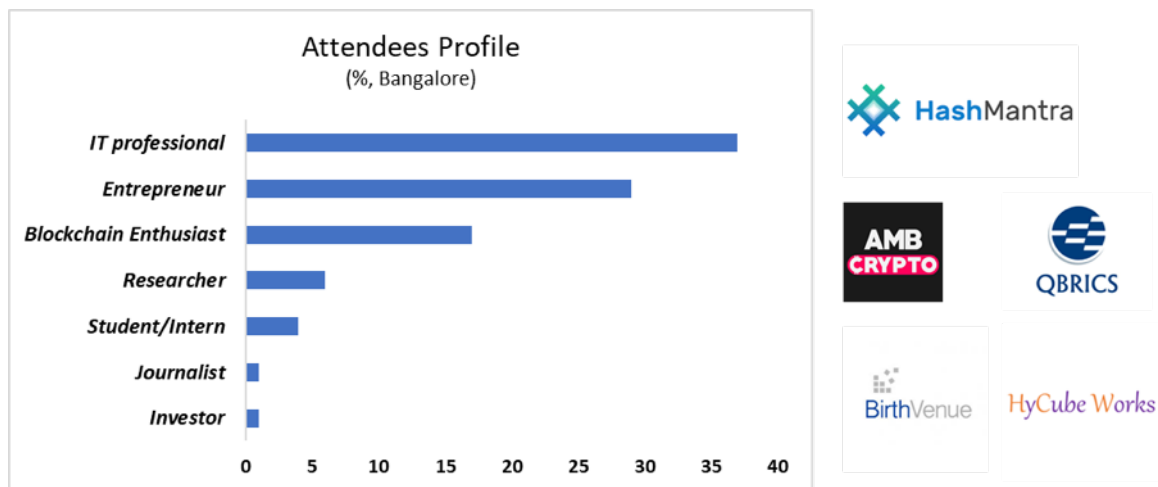

Figure 7 -- Bangalore Town Hall Session - Attendees Profile and selected participating start-ups

An IT professional mentioned how the current regulatory framework – by limiting financial institutions to engage with cryptocurrency entities – still leaves space for the creation of peer-to-peer exchanges. And, the existing tax structure applies to cryptocurrency gains. Entrepreneurs should keep in mind these aspects while building their companies. For another speaker, India should play a role in the global governance of blockchain. He pointed out the need to identify coding standards to develop smart contracts.

Entrepreneurs insisted on how the stigma around blockchain keeps talent away. The talent shortage limits the ability of start-ups to compete in the global market. Thus hurting India's global competitiveness in IT.

A lawyer highlighted how India is the world's largest market for remittances. The government should ease blockchain regulation to create global companies in the sector. He proposed the Prevention of Money Laundering Act to regulate KYC. Along with this, a licensing regime for exchanges should be enacted. Government-Industry collaboration should be promoted to inform regulatory framework design.

A speaker mentioned the failure of many ICOs, another mentioned the artificial manipulation of cryptocurrency prices by the centralized exchanges as arguments against cryptocurrencies. Below are some key quotes of the meet-up:

"Crypto assets are essential to blockchain technology."

Jaideep Reddy, Technology Lawyer, Nishith Desai Associates

"Blockchain will get a new paradigm shift, and globally regulations for smart contracts also needs to be done so that globally every developer will use those coding standards to develop smart contracts."

Mankena Venkatesh, Software Engineer, ConsenSys

"Each token needs to be regulated separately and broken down into the other remaining acts: Payments & Settlement System Acts, Foreign Exchange Management Act, Securities Contract Regulation Act & Goods & Services Tax Act."

Anoush Bhasin, Co-founder, Quagmire Consulting

4.5. Social Media and Email

The sessions promoted social media interactions on Twitter and Facebook. Attendees tweeted addressing to the handles of regulatory leaders and institutions. The hashtags used were #IndiaWantsCrypto, #IndiaForOrAgainstCrypto, #IndiaLearnsCrypto, and #IDF.
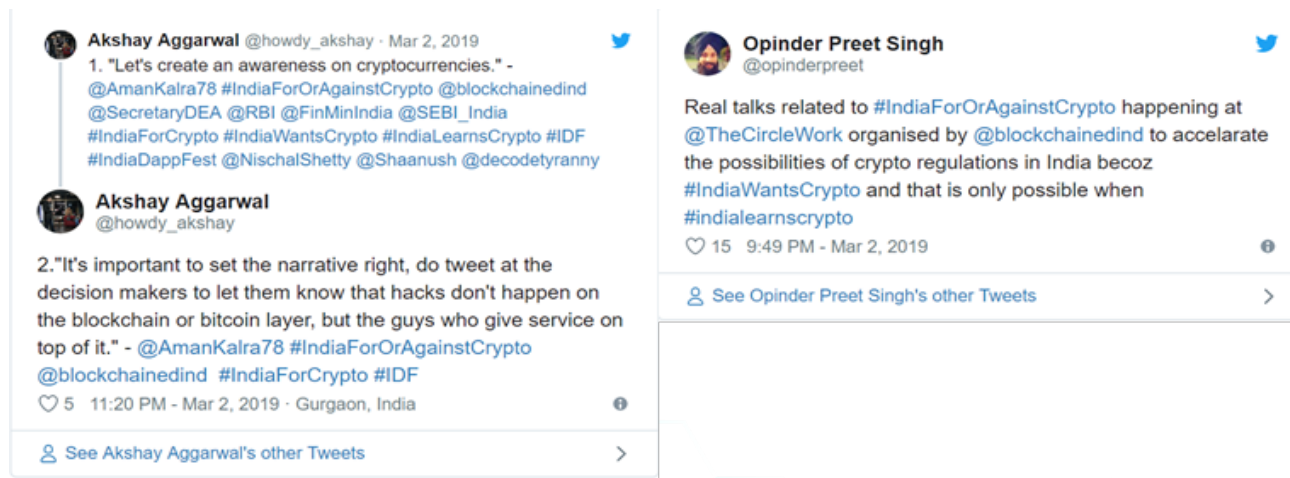

Figure 8 - Social Media interactions

Additionally, those who could not attend the sessions shared their perspectives through emails. Most of the emails reiterated the points covered during the meet-ups. Themes of these emails focused on protecting investors and preventing money laundering, and criminal activities. Further, they highlighted the impact of the ban on the development of the ecosystem, and the associated brain drain risks and loss of economic opportunities. Lack of a taxation framework and the role of the RBI was also mentioned as a concern. Below are some key quotes:

"India currently is also struggling to create job opportunity and Blockchain industry comes as a relief providing jobs for different sections of society."

Melchis Dmello, Business Development Manager SWFT Blockchain

"Indian Government should hand over regulation of crypto assets to SEBI. If you look at crypto regulations worldwide, the securities regulators across all countries have a huge say in the industry."

Shashank Venkat, Crypto Dost

"India was somewhat late in drafting progressive regulations for the Internet revolution, which has largely led to us playing catch-up as the US and China created the most valuable Internet start-ups. We should not be late to the blockchain revolution."

Anshul Dhir, Co-Founder KoinF

5. Recommendations to the Government

As noted in the preceding sections, Blockchained India organised Town Hall sessions in eight cities including four metro cities (Delhi, Mumbai, Hyderabad and Bangalore) and four Tier-2 cities (Panjim, Gandhinagar, Calcutta and Pune). These sessions were of immense value in probing and organising the thoughts of industry players on proposed regulations for Blockchain and crypto-assets in India.

Below, we have compiled a list of recommendations pertaining to the regulation of Blockchain and crypto-assets in India, derived from these Town Hall sessions. We hope that the recommendations below contribute to the government's endeavour of laying down a robust foundation for, and realising the potential, of Blockchain.

5.1. THE TERM 'CRYPTOCURRENCY' SHOULD BE DEFINED AUTHORITATIVELY

We believe it is essential to distinguish 'cryptocurrencies' from the 'virtual currencies' ("VC"). This is because regulatory instruments constantly use these terms and their grammatical variants interchangeably, which is problematic given that different terms may denote very different products.

A ready example of this is found in the Reserve Bank of India's ("RBI") circular released on 06 April 2018, titled 'Prohibition on dealing in Virtual Currencies (VCs)'.[24] This circular repeatedly uses the term 'virtual currencies'. This may cause confusion and undermine efforts towards proper regulation since the term 'virtual currency' includes a larger array of products and digital assets than covered under the term 'cryptocurrency'. A layman's example would be the distinction between Bitcoin and the frequent flyer miles offered by various airlines. Neither of these has a physical form and hence are 'virtual' in nature. Further, both can be thought of as stores of value which can be redeemed against other goods or services. Hence, both qualify as VCs. Yet, they are far from similar and it is unlikely that the RBI intended to regulate all such VCs. By using the two terms interchangeably, the RBI has cast its net farther and wider than it meant to.

The European Central Bank ("ECB")[25] divides 'virtual currency' into three distinct types. First are 'closed virtual currency schemes' i.e. those schemes which have almost no link to the real economy and may be understood as 'in-game only' schemes. Herein, the user pays a fees to participate and earns VC as a reward on the basis of his/her performance or use patterns. These rewards can be redeemed only within the network and cannot be transferred outside the virtual community. World of Warcraft's gold is an example of a closed virtual currency.[26] Second are 'virtual currency schemes with unidirectional flow'. Here the VC may be bought using real currency but cannot be redeemed against real currency. This type of VC may be used to purchase virtual goods and services or even real goods and services in some cases. Facebook's credits or Nintendo points are examples of this type of VC.[27] Third are 'virtual currency schemes with bidirectional flow'. Here, users can purchase and liquidate VC against real currency according to the prevailing exchange rates. Therefore, these VCs are as liquid and interoperable as real world currencies. One may purchase both virtual and real goods and services using such VCs.

It is unlikely that the RBI intended to regulate closed and unidirectional VCs (such as Facebook credits, Nintendo points and World of Warcraft gold), since these do not interact with the economy in the same manner as bidirectional VCs. Therefore, it is recommended that any proposed regulation should distinguish between the different kinds of VCs and specify the ones that it seeks to regulate.

5.2. CRYPTO-ASSET EXCHANGES MAY BE MANDATED TO COMPLY WITH CONSUMER PROTECTION AND TRANSPARENCY NORMS

There is a bouquet of measures which may be employed by crypto-asset exchanges to protect the interests of consumers who use their platforms.

Many businesses today use 'Know-Your-Customer' ("**KYC**") processes to credibly identify prospective consumers before allowing them to transact with them. Crypto-asset exchanges could be mandated to fulfill KYC requirements as well using government issued and recognised identification instruments. These instruments could include Aadhar cards or PAN cards for individuals, Articles of Association and

Memorandum of Association for companies and such similar documents for partnership firms and limited liability partnerships. This would ensure that sums of money invested into crypto-assets can be traced to specific people. Going forward such information would also facilitate investigation into the source of these funds. Additionally, users could be blacklisted from crypto-asset exchanges if their KYC documents are found to be fraudulent or misleading. This safeguard can further be strengthened by constituting and mandating information-sharing mechanisms between different crypto-asset exchanges.

In this direction, the government could leverage the benefits of 'electronic KYC' ("**e-KYC**") authentication procedure provided by the 'Unique Identification Authority of India' through 'e-KYC user agencies'.

Measures towards 'anti-money laundering' ("**AML**") and 'countering financial terrorism' ("**CFT**") compliances could be made mandatory for crypto-asset exchanges. Users could be required to undertake that they shall not use the platform of the crypto-asset exchange for any illegal activity. Additionally, crypto-asset exchanges could be mandated to comply with the provisions of Foreign Exchange Management Act, 1999, the Prevention of Money Laundering Act, 2002, and the Unlawful Activities (Prevention) Act, 1967.

Certain safeguards may be inbuilt into the design of how crypto-asset exchanges may be accessed and used. For instance, crypto-asset exchanges may be allowed to accept payments only through formal banking channels for transactions on their platforms. Further, routine activities such as record-keeping, risk profiling and account monitoring measures would augment these safeguards.

To protect consumers' information, their privacy and their investments, measures such as communication encryption and network security firewalls could be employed. A framework with staggered security obligations depending upon the size of the crypto-asset exchange could be formulated to protect such platforms from denial-of-service, hacking or other such malicious attacks.

To build faith and transparency with government agencies and independent regulators, a dashboard may be created by each crypto-asset exchange. This dashboard shall provide real time data to government agencies and regulators on users of crypto-asset exchanges. This could include information related to trade volumes, amount of fiat currency used for the transaction, amongst others.

THE FOLLOWING CASE STUDY SPEAKS TO THIS RECOMMENDATION:

In USA, all the currency transactions are required to comply with the regulations laid down in the Bank Secrecy Act, 1970 and Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act, 2001.[28] In 2013, the volume of cryptocurrency transactions had seen an unprecedented surge in the country and the first major theft of 25,000 bitcoins ("BTC") took place.[29] Following this, the Financial Crimes Enforcement Network issued a guidance to regulate BTC and declared that there will be no difference between the exchanges dealing in fiat currency and the ones dealing in BTCs implying that even the crypto-exchanges were required to comply with the KYC, AML, CFT[30] and other record keeping and reporting requirements.[31]

These regulations were well received by crypto-exchanges. The implementation of KYC/AML laws helped preclude the possibility of becoming a platform which might inadvertently facilitate illicit activities.[32] The crypto-exchanges which do not comply with KYC/AML requirements have been exposed to terrorist financing and money laundering and are identified as the ones carrying high risk.[33] For instance, recently 7,047 BTCs were stolen from Binance, a pure crypto-exchange which allows withdrawal of up to 2BTCs without any ID verification.[34] Following which, the crypto-exchange announced to upgrade their KYC standards.[35] Also, e-BTC suffered laundering of USD 4 billion as it had no licence from the government to operate owing to its no-compliance with the KYC and AML regulations. On the other hand, crypto-exchanges like Coinsquare, Coinbase, Gemini and Poloniex, which adhere strictly to the KYC/AML norms prescribed by the US government, are the safest and have not faced any incidents of theft or money laundering.[36] Hence, the KYC/AML regulations imposed on crypto-exchanges in USA have made them secure and eliminated the risks of fraud money laundering or theft.[37]

5.3. CRYPTO-ASSET EXCHANGES MAY BE REQUIRED TO COMPLY WITH A SELF-REGULATORY FRAMEWORK VERIFIED BY THE RBI, AND MAY BE SUBJECT TO MINIMUM CAPITALISATION REQUIREMENTS

Crypto-asset exchanges in India could formulate an industry-wide self-regulatory framework, which would periodically revise and advise on best practices to be followed by these exchanges. Some inspiration may be taken from the Payment Card Industry Data Security Standard ("**PCI DSS**"),[38] which is a data security standard formulated by the Payment Card Industry Security Standards Council ("**PCI SSC**").[39] The PCI SSC comprises industry players such as American Express, Discover, JCB International, MasterCard and Visa Inc, amongst others.[40]

The RBI may certify those exchanges which successfully comply with this framework. This would promote healthy competition for this certification amongst exchanges since it implies a modicum of credibility and security on the exchange. This would in turn incentivise crypto-asset exchanges to comply with this framework.

Crypto-asset exchanges may be mandated to maintain a net owned corpus of not less than INR one crore to ensure that they are able to meet the liquidation requirements of their users.

THE FOLLOWING CASE STUDY MAY BE REFERRED TO FURTHER CLARIFICATION:

One of the main challenges cryptocurrency is facing is that of regulation.[41] Centralizing a system of decentralized exchange[42] is counter-intuitive. On 24 December 2018, Japan's 'Financial Services Agency' ("FSA") granted the crypto-asset industry a self-regulatory status[43] effectively allowing the 'Japan Virtual Currency Exchange Association' ("JVCEA"), Japan's self-regulatory body for crypto-exchanges,[44] to sanction and oversee crypto-asset exchanges.[45] The step was taken in the wake of theft of crypto-assets worth USD 590 million from a Tokyo-based exchanges in January 2018.[46] The step has made the Japanese marketplace a welcoming jurisdiction compared to other countries which are still skeptical about the adoption of crypto-assets.[47] With widespread adoption of cashless payments, now incentivized by the crypto trading, Japan is expected to save an estimated USD 18 billion a year out of the costs borne by the financial industry in operation of paper money.[48] Considering the success the Japanese cryptocurrency industry has been lately, even other countries, most notably the US, have given their approval to the potential self-regulation of the crypto industry.[49] The FSA has touted the step as finding the "balance between consumer protection and technological innovation".[50]

5.4. CRYPTO-ASSET TRADING SHOULD BE LIMITED ONLY TO WHITELISTED ADDRESSES HELD BY CONSUMERS

The government may mandate a centralized database of verified addresses of users who own and trade in crypto-assets. This would serve the dual purpose of providing transparency to the relevant oversight bodies to monitor flows of crypto-assets and would also restrict the trade in crypto-assets to verified users.

Such a database of whitelisted addresses would facilitate the identification of users who use the exchange for any illegal or fraudulent activity. The addresses of these users may then be collated into a centralized address blacklist. Users in the blacklist may be prohibited from transacting on all exchanges. Government agencies and investigative authorities would benefit from such a centralized repository of blacklisted addresses for investigative purposes. They may contribute to the blacklist by providing the KYC and Aadhar details of individuals or entities suspected of or convicted of financial misconduct, and moral turpitude, amongst other things. Accordingly, member exchanges would be able to preemptively prohibit such a user from transacting on their platforms.

THE FOLLOWING CASE STUDY IS RELEVANT IN THIS REGARD:

To make transactions involving cryptocurrencies more robust, a number of crypto-exchanges have come up with a database of addresses of verified users and traders of crypto-assets. A number of crypto-exchanges have adopted this practice and maintain a list of such addresses. One of such crypto-exchanges is the US-based Bittrex.[51] Bittrex provides for a two-way whitelisting feature,

whereby an account holder of the platform can choose to enable 'Crypto Address Whitelisting',[52] which only allows trading of crypto-assets between the enabled crypto addresses. However, it is an opt-in feature that the account holders can enable and disable at will.[53] There are several other platforms, like Bitstamp,[54] Gemini,[55] both located in the US, which offer similar whitelisting services. However, seeing the expected growth of the crypto industry in the coming years,[56] it is imperative that a state-wide list is created to enable safer transactions and prevent crypto-related frauds and that is not just a voluntary option for crypto-asset exchanges.

Russia is another country which has seen the creation of such a whitelist.[57] The 'Russian Association of Cryptocurrencies and Blockchain' ("**RACIB**") has created a registry of whitelisted companies engaged in the trade of crypto-assets.[58] Prior to the undertaking of such step, crypto-related frauds in Russia amounted to a loss of USD 4.3 million.[59] The creation of registry was undertaken with the aim of creating a repository of trusted companies and addresses in the crypto industry, to minimize the risk involved in the crypto-related transactions and increase the trust of Russian and foreign participants in the development of Russian crypto market.[60] The criteria for being included in the list include standards like "*financial sustainability, experience and business reputation, lack of judicial judgements, availability of licenses and certificated, no arrears of taxes and fee*".[61]

5.5. CONSUMERS MAY BE SAFEGUARDED THROUGH MEASURES SUCH AS CRYPTO-ASSET INSURANCE, AWARENESS AND EDUCATION DRIVES

A conducive regulatory framework for insurance products for crypto-assets may be promoted in India. Such products may insure holders of crypto-assets against hacking and cyberattacks. Insurance products covering hacking and cyber-attacks not extending to crypto-assets are already available in India.[62] Cryptocurrency insurance products are already available in Japan[63] and are being contemplated in the UK as well.[64]

Awareness drives could be undertaken to educate users on the prerequisites for legally using crypto-asset exchanges, the risks associated with trading, and other important considerations. An investor protection and education fund for crypto-asset traders, along the lines of investor protection and education fund formed under the Securities and Exchange Board of India (Investor Protection and Regulation Fund) Regulations, 2009, may go a long way in achieving this goal.

The RBI may formulate detailed rules to effectively utilize the proceeds from the proposed investor protection and education fund, to refund deposits held by crypto-assets exchanges that are subsequently de-recognized, for restitution to users who suffer losses owing to non-observance of rules, amongst others purposes.

THE FOLLOWING CASE STUDY FURTHER BUILDS ON THIS RECOMMENDATION:

The "insurance hurdle"[65] is one of the main impediments the cryptocurrency industry is facing. The institutional and individual investors have been struggling to find proper insurance covers for their crypto-assets, and the failure to find the same has been termed as a "significant impediment to greater 'institutionalisation' of crypto investments".[66] The entry of institutionalized investors in an industry is of immense importance. It facilitates scalability of, and signifies trust in, the emerging industry in the economy.[67]

Coinbase, a San Francisco, US based digital currency exchange platform,[68] is one of the first firms in the world to provide for custody solutions for crypto-assets.[69] This step was aimed to cater to the security-related concerns of investors who are looking to put funds into the crypto market.

Coinbase has since become one of the major players in the market of insurance of crypto-assets, recently reporting a net-worth of USD 250 million.[70] This step taken by Coinbase, has helped it navigate the crypto-marketplace and bring forward investors willing to invest in cryptocurrencies.[71] Coinbase, as of 2017, boasted a userbase of thirteen (13) million users.[72]

Several prominent industry players have highlighted the need of insurance of crypto-assets through trustworthy service providers.[73] With the crypto-industry expected to increase by a whopping 41% in the next five years (should institutionalized investors enter the picture)[74] the provision of insurance of such crypto-assets becomes imperative.

Numerous countries like Hong Kong,[75] Bermuda,[76] and Mauritius[77] among others already have guidelines mandating the insurance of crypto-assets in place. If India is to take the advantage of the still-nascent industry, it has to keep pace with the global developments.

6. Swiss Blockchain Policy Tour: A Note from the Co-Founder

To understand the implementation of Web 3.0 around the world, it becomes imperative to interact with the people who are driving this change. Last month, I got an opportunity to meet tech industry leaders from Switzerland, inarguably one of the most forward jurisdictions in the blockchain space. I was invited by Switzerland's crypto community as a part of an Indo-Swiss Bilateral Delegation to assess, discuss and understand the blockchain-friendly regulations defined by different bodies working in Switzerland. The visit brought opportunities to interact with entrepreneurs, regulators, ecosystem building organisations, legal experts and academicians.

THE SWISS CASE STUDY

Switzerland has been striving to become the innovation capital of the world, and in this direction, it captured two big waves: watch manufacturing and banking. The Swiss connected the dots and realised that regulations play an important role in fostering growth of a particular industry. However, after losing the bank secrecy law, and subsequently the banking advantage, they made efforts to identify the next such wave that could once again put the country ahead of the rest. Indisputably, this new opportunity came in the form of an inherent desire to become the new Silicon Valley of the world. Therefore, ever since, the Swiss have been competing to bring fintech specific innovation to their land. The regulators at the canton level proactively engage in dialogue with the start-up founders and field experts to understand the regulatory needs in order to facilitate proliferation of innovation and the growth of companies.

HINDRANCES

The Swiss Banks initially did not openly welcome the new blockchain technology in banking even after the government passed crypto friendly national laws. Hindrance was caused at the level where they stopped offering banking services. And therefore, the government had to pay special attention to resolve this issue. As the Swiss population and talent, both lack the capability of scaling up the innovation goals, the government started making the process smoother for crypto companies and talent to come and establish entities there.

ADVANTAGES

It is certain that the support from associations, foundations and sharing common goals regarding the blockchain ecosystem, such as CryptoValley Association (NGO), Blockchain Valley Ventures (fund), CryptoValley VC (fund), CryptoValley Labs (co-working space and incubator) and TrustSquare (co-working) has played to the advantage of the Swiss blockchain community to flourish.

For India, therefore, I believe that there is a need to be open to new technologies and ensure a competitive, qualitative and light touch regulatory approach to foster innovation and development. A proactive and swift goal-based thought process should be adopted when laying rules.

Akshay Aggarwal,

Co-Founder, Blockchained India

India Dapp Fest is an unprecedented confluence of thoughts focussed on enabling conscious decentralization and in turn, ushering in a change to pave the path for the future work assemblies. Together, we wish to celebrate the transformation of society digitally into Society 3.0.

SELECTED SPEAKERS

Amol Kulkarni

Sr. Security Architect & Head of Engineering, Blockchain Program Office, Intel India

Amol is the Head of Engineering for the Blockchain Program Office at Intel India. He also leads the Hyperledger India Chapter and is on the Board of Advisors of the Kerala Blockchain Academy. Amol has spent more than a decade in the security space, working on cryptography, hardware security, biometrics and user authentication. He has multiple patents and publications to his credit. He has also co-authored multiple standards in the Internet and security space.

Anirudh Rastogi

Founder, Ikigai Law, Alum Harvard Law

Anirudh's legal practice encompasses VC investments, tech law and policy advisory with a special focus on growth-stage startups and emerging-tech businesses. He was named Achiever of the Year 2017 by BusinessWorld magazine. From setting-up some of India's first cryptocurrency exchanges to advising on some of the earliest initial coin offerings and representing the exchanges in the Supreme Court in the ongoing challenge to the RBI ban, he has represented blockchain companies on a wide range of issues. His clients include Koinex, Matic Networks, Zebi and Elemental Labs.

Aside from this he represented Team Indus on its spacecraft launch contract with ISRO, assisted on the deployment of the WhatsApp fact-checking platform and was named by The Economic Times, a "pioneer" for his contribution to the drone regulations in India. In addition to being a visiting faculty at NLU-Delhi and IIM-Indore, he has also authored a book on Cyber Laws published by Lexis Nexis.

He has graduated from Harvard Law School and National Law Institute University and shares a keen interest in the intersection between technology, law and policy.

Dr Ajai Garg

Head of Department Cyber Security International Corporation & Startup Innovation, MeitY, GoI

An Engineer by qualification and a champion of Information Technology by choice, Dr AK Garg is a seasoned technocrat and a key strategist who likes to see himself as a relentless disruptor and always at the forefront of initiatives shaping up tomorrow's digital world. As a Director in the Ministry of Electronics and Information Technology (MeitY), Government of India, Dr Garg is tasked with the responsibilities of key divisions and is driving many mission-critical digital transformation initiatives. He currently heads the International Cooperation Division. Dr. Garg is a key contributor to various technology oriented and trade & commerce related strategic forums of GoI.

A keen planner, strategist and implementer Dr. Garg is passionate about promoting startup-entrepreneurial ecosystem especially in the realm of emerging technologies in the country. He is part of the core team devising National Software Product Policy and National e-Commerce policy apart from being a lead negotiator in a number of significant global forums on e-commerce such as RCEP, G-20 and WTO. Dr. Garg has been a regular speaker at workshops, conferences, symposiums and forums in India and abroad dealing with IPR, Entrepreneurship & Innovation, e-governance challenges and new digital paradigms.

Gokul Alex

Associate Director, PwC

Gokul Alex is a Digital Futurist with passion for Social Entrepreneurship, Exponential and Emerging Technologies. He has been recognised as one among Top 20 Global Thought Leader on AI, Analytics, Blockchain, Big Data, Cybersecurity, Cloud, Data Science, IoT and Quantum Computing by Thinkers360 Platform. He has lead the Blockchain Strategy Consulting and Platform Engineering initiatives across central and state governments in India and abroad ranging from NITI Aayog, Government of Maharashtra, Government of West Bengal, Government of Kerala, Government of Karnataka, Government of Pondicherry, Government of Assam etc. He has been selected as the Blockchain Security Auditor for International Clients across Malta, Singapore and Thailand. He has designed Blockchain Architectures for International Governmental Organisations like the United Nations, World Bank, World Economic Forum etc.

He is currently driving Blockchain Initiatives across Government and Public Sector space as the Core Member of Government Blockchain Association in India. He is also part of Enterprise Ethereum Alliance as the contributor to the special interest groups across Digital Identity, Financial Services and Manufacturing Sector. He is also a core member of the Hyperledger Sawtooth Technical Working Group in India. He has set up the largest Developer Community for Hedera Hashgraph in India and first ever ZCash, IOTA, RSK, EOS Blockchain Platform Community in Kerala and the first ever Quantum Computing Research Centre for UST Global.

Jaspreet Bindra

SVP, Digital Transformations, Mahindra Group

Jaspreet runs an independent advisory practice in Digital Transformation, Blockchain, and the Future of Work. He speaks, consults, advises, teaches and writes on these subjects as well. He is also the Digital Advisor to the Mahindra Group, Adjunct Advisor to IDC, and on the Advisory Board of Findability Sciences and Blockchained India. Until recently, he was the SVP – Digital Transformation, equivalent to the Chief Digital Officer, for the $18 bn Mahindra Group. He led the online platform business and consumer business of Microsoft, was selected through TAS by the Tata Group and was a part of the founding team of Baazee (later EBAY India). He has previously been the Vice Chairman of the Internet and Mobile Association of India; a Member of FICCI Media & Entertainment Committee; has lectured at HBS, ISB; mentor, angel-fund, and currently advises/mentors several tech start-ups across India.

Jessica Zartler

Blockchain Anthropologist, Founder and Chief Decentralisation Officer, AnarchoPortugal

Award-winning journalist, blockchain anthropologist and advisor, and yoga teacher with a focus on education and social impact. Her mission focuses on storytelling as a vehicle for innovation, empowerment and connection in the fast moving technological revolution of blockchain and cryptocurrency. Most recently, self-employed as an international communications & digital marketing director and consultant in the blockchain space.

Nitin Gaur

Director, Digital Assets WW, IBM

Nitin is a forward-thinking, business-minded executive with rich experience as a leader, strategist, and innovator entrenched in the design and development of enterprise infrastructures and applications — including leading-edge middleware and mobility solutions for Fortune 500 companies in 20+ countries. Tenacious and customer focused, Nitin is renown for his ability to analyse opportunities, anticipate trends, and create technologies that align with operational needs, catapult profitability, and dramatically

improve the end-customer experience. He is one of the top 30 practitioners worldwide according to cryptoinsider.com. In his current role as the Director, Digital Assets WW, IBM, he is responsible for instituting a body of knowledge and organizational understanding around blockchain technology and industry-specific applications. His mission is building a "blockchain for enterprise" practice with client-facing responsibilities and is tasked with building a new business built around industry disruption and disintermediation. Since taking this role in 2015, Nitin has: Pioneered enterprise blockchain strategy and advised IBM decision makers, business partners, and clients, on industry disruption, emerging application and services landscape around blockchain technology. Apart from his role at IBM, he also advises KeaFund, Credits and Blockchained India.

Prem Kumar

Blockchain lead, PwC India

Prem Kumar is the DLT/blockchain lead under emerging technology strategy group in PwC India and helps customers in India and global markets to identify, create and capture emerging business values. He comes with startup, product engineering & professional service industry experience that brings in a holistic view on how business problems can be solved by the simplest of product ideas that can match market demands. Previously he has been leading the serverless/cloud-native initiatives where he has successfully delivered large & very large agile programs globally. Currently, DLT/Blockchain technology is where Prem spends most of his time in solving important problems for fortune 500 customers globally. As a cross-industry expert, he spends most of his time in identifying emerging use cases in power & utilities, manufacturing, logistics, O&G, BFSI, E&M, pharma & health and automotive industries. Being a trusted advisor for customers in the aforementioned industries, he works with CXOs and last mile value delivery executives in enterprises to help articulate and visualise the actual business value of using DLT/blockchain based technologies.

Ravi Chandrasekaran

Practice Partner - Blockchain at Wipro Technologies

Ravi is a software industry veteran who's currently Practice Partner Blockchain & Emerging Technologies for India and APJ Market. As a technology leader and product enthusiast, he brings in vast experience in massive scale delivering Digital Transformation Advisory and Consulting, Distributed Ledger Platform., eCommerce & Payments platforms, decisioning systems powered by Artificial Intelligence (AI). Special Focus is on Deep Tech. GOKUL ALEX

Rong Chen

Founder and CEO, Elastos Foundation

Rong Chen graduated in 1977 from the Department of Computer Science and Technology at Tsinghua University. He first studied operating systems at the University of Illinois for seven years and then contributed to the development of the underlying modules of the Windows operating system for eight years at the Microsoft headquarters. After returning home, he focused his work on operating systems for 17 years. In June 2017, the co-founder took part in the planning and establishment of the Elastos Foundation to support Elastos, a blockchain-driven Internet project. Pushing the boundaries of blockchain technology, Elastos is one of the most innovative and newest coins on the block, that uses the concept of blockchain to power a complete, self-sufficient ecosystem that is a decentralized internet, operating system, and a virtual machine all through one platform.

Blockchain India was founded in 2017 as a community initiative with the primary objective of bringing India at par with the world's leading nations in innovation and technology, specifically, blockchain technology. Our vision of making India one of the key players in the blockchain space is inspired by the government's Digital India program which is aimed at realizing the dream of a digital India. So far, Blockchained India has started 4 chapters in Delhi, Mumbai, Bangalore and Hyderabad, organized 100+ meetups and became the go-to community in the Indian blockchain ecosystem.

8.2. Social Media

- **Facebook Group: 5605**
- **Facebook Page: 2891**
- **Meetup 3116**
- **Telegram:1658**

8.3. Team

Akshay Aggarwal

Startup, Technology & community building enthusiast. Fellow at DraperU

Kumar Anirudha

Founder Acyclic Labs. Blockchain and Ecosystem Developer

Manav Ailawadi

Community Builder & Entrepreneur

Advaith Mohan

CoFounder @Wagr. Dedicated to a better future for humanity

Karthika Sivakumar

Community Manager at Thoughfactory. Excited about the future of Blockchain

Kashyap Kompella

Founder of Edwisely, Fellow at DraperU

Vikas Singh

Ethreum blockchain developer and crypto believer

Lakshay Anand

Blockchain Enthusiast and Developer at Accenture

Stefano Colombu

Public Policy Head, Blockchained India, ex-YES BANK|YES Global Institute

Chinmay Shah

Blockchain Enthusiast and Student at NMIMS, Mumbai

8.4. ADVISORS

Nitin Gaur

Director, Digital Assets WW, IBM Labs, Member Advisory Board at CREDITS Blockchain & Smart Contracts

Kavita Gupta

Founding Managing Partner at ConsenSys | ex-World Bank | ex-Schmidt Foundation

Vivek Deep Gupta

India Head at R3

Jaspreet Bindra

SVP, Digital Transformation at Mahindra | ex-Microsoft

Dr. A.K.Garg

Head of Department, IT and IT Enabled Services, International Corporation & Startup Innovation, Ministry of Electronics and IT, Government of India

Siddharth Chaudhary

VP, Engineering at NEC Technologies

Srinivas Kollipara

COO at T-Hub

Sanjay Mehta

Investor at Block.One(EOS)

8.5. PARTNERS

91springboard is a vibrant coworking community created for startups, freelancers and business owners with a startup mindset. Members of 91springboard get access to a coworking space with 24×7 office-infrastructure support, key service providers, knowledge sharing & collaboration, networking and of course, a free spirited culture that breeds innovation!

Blocumen Studios creates mutually beneficial opportunities for each stakeholder and hence the entire ecosystem through platform adoption, enterprise implementation, startup consultation and skill penetration.

Facebook Developer Circle: Delhi, Bangalore, Mumbai & Hyderabad

Developer Circles from Facebook is a program designed to create locally organized communities for developers. These communities are meant to educate and provide a forum for discussion and knowledge sharing around topics that are top-of-mind for developers in a particular market.

Fame Technologies is a cross-border strategic advisory firm and business intelligence hub that helps scale-ups and corporations with corporate innovation and market expansion.

Ikigai Law provides legal and strategic advice to a wide variety of clients, from high impact startups to mature market-leading companies. Ikigai Law approach is to be partners in progress, finding practical and efficient solutions to some of the clients' most complex legal and business challenges.

PocketBits is one of the first professional crypto-platforms in India. PocketBits provides a digital asset trading platform built on ultra-modern services for digital currency traders and global liquidity providers.

For incomes arising on any Blockchain or cryptocurrency exchange, Quagmire Consulting promises hassle free navigation through the murky waters of Income Tax.

Startup Grind is the largest independent startup community, actively educating, inspiring, and connecting more than 1,500,000 entrepreneurs in over 500 chapters. Startup Grind nurtures startup ecosystems in 125 countries through events, media, and partnerships with organizations like Google for Startups. Founded in Silicon Valley, Startup Grind has helped millions of entrepreneurs build their businesses, connect with strategic partners, and secure funding.

T-Hub leads India's pioneering innovation ecosystem that powers next-generation products and new business models. Incorporated in 2015, it has provided over 1100+ national and international startups with access to better technology, talent, mentors, customers, corporates, investors and government agencies.

8.6. OTHER PARTNERS

9. Annexure 1 - List of Speakers - Town Hall Sessions

Name	Company	Session
Shantanu Sharma	Incryptt	Delhi
Ankitt Gaur	Koinfox	Delhi
Aditya Dev Sood	Startereum	Delhi
Ankur Bakhshi	Marketeer	Delhi
Varun Sethi	The BlockchainLawyer.in	Delhi
Aman Kalra	Coinsecure	Delhi
Naimish Sanghvi	Coin Crunch India	Delhi
Mohit Mamoria	Authorito Capital	Delhi
Anirudh Rastogi	Ikigai Law	Delhi
Rishabh Sinha	Independent Lawyer	Delhi
Aashima Johur	Spice Route Legal	Delhi
Prof. Bhagwan Chowdhry	ISB Hyderabad, UCLA Anderson School of Management	Hyderabad
Anoush Bhasin	Quagmire Consulting	Hyderabad
Prashanth Swaminathan	XDAT.io	Hyderabad
Sai Teja	Launch My ICO	Hyderabad
Sainath Gupta	PrimeTrade AI	Hyderabad
Kunal Matwani	Autec	Hyderabad
Pradeep Pentakota	Developer	Hyderabad
Nehha Wadha	The Pink Table	Mumbai
Saurabh Gunjal	Merkle Labs	Mumbai
Yash Dahenkar	Bitgenie	Mumbai
Nirav Bakshi	Skyline Legal	Mumbai
Nishchal Shetty	WazirX	Mumbai
Pranav Sharma	Authorito Capital	Mumbai
Anurag Arjun	Matic Network	Mumbai
Shiv Gupta	Crypto Conversations	Mumbai
Sachin Hain	Amesten Asset Management	Mumbai
Neeraj Khandelwal	Podcast Host	Mumbai
Anoush Bhasin	Quagmire Consulting	Bangalore
Naveen Mishra	Bank of Hodlers	Bangalore
Nirmal Lekshminarayanan	Inwara	Bangalore
Nilesh Trivedi	Indium network	Bangalore
Nishchal Shetty	WazirX	Bangalore
Jaideep reddy	Nishith Desai & Associates	Bangalore
Nitin Sharma	Incrypt Labs	Bangalore
Mankena Venkatesh	ConsenSys India	Bangalore

10. Annexure 2 - Email Contributions

NAME	ORGANIZATION
Melchis Dmello	SWFT Blockchain
Sowmay	InstaDapp
Shashank	Crypto Dost
Anshul Dhir	KoinFox
Dev Sharma	Blockchain Growth Consultant
Vineet Sinha	Great Lakes Institute of Management, Gurgaon

11. Annexure 3 - Selected Media Coverage

SOURCE	TITLE	LINK
Crypto-News India	Blockchained India Brings Crypto Stakeholders Together in Memorable Evening	https://www.crypto-news.in/news/blockchained-india-brings-crypto-stakeholders-together-memorable-evening/
Bitcoin News	Crypto Town Hall Meetings Grow to 8 Indian Cities	https://news.bitcoin.com/crypto-town-hall-meetings-indian-cities-voice-regulatory-ideas/
Bitcoin News	Crypto Enthusiasts Unite in 4 Indian Cities to Voice Regulatory Suggestions	https://news.bitcoin.com/crypto-enthusiasts-unite-to-voice-regulatory-suggestions/
Bitcoin News	How to Help Influence Crypto Regulation in India	https://news.bitcoin.com/indian-crypto-enthusiasts-influence-regulation-lift-rbi-ban/
Crypto-News India	Blockchained India Brings Crypto Stakeholders Together in Memorable Evening	https://www.crypto-news.in/news/blockchained-india-brings-crypto-stakeholders-together-memorable-evening/
CryptoNewsZ	Crypto Enthusiasts Take the Streets in Four Cities in India to Voice Regulatory Suggestions for the Market	https://www.cryptonewsz.com/crypto-enthusiasts-take-the-streets-in-four-cities-in-india-to-voice-regulatory-suggestions-for-the-market/11775/
Bitcoin News	Indian Supreme Court Set to Hear Crypto Case on March 29	https://news.bitcoin.com/indian-supreme-court-hear-crypto-case-march/
BlockPublisher	This is How Bitcoin Enthusiasts In India Are Saving The Technology	https://blockpublisher.com/this-is-how-bitcoin-enthusiasts-in-india-are-saving-the-technology/

Crypto-News India	The Road to Crypto Regulation: Open Roadshows and Town Halls to be Held in 4 Indian Cities	https://www.crypto-news.in/news/road-crypto-regulation-open-roadshows-town-halls-held-4-indian-cities/
ETtech	cryptocurrency: India's crypto community comes together to explore its way forward,	https://tech.economictimes.indiatimes.com/news/technology/indias-crypto-community-comes-together-to-explore-its-way-forward/68114450
inc42	Supreme Court Gives Centre 4 Weeks To Bring In Cryptocurrency Policy	https://inc42.com/buzz/supreme-court-gives-centre-4-weeks-to-bring-in-cryptocurrency-policy/
Bangalore Mirror	Bengaluru: Waiter, there’s a blockchain in my coffee mug	https://bangaloremirror.indiatimes.com/bangalore/cover-story/waiter-theres-a-blockchain-in-my-coffee-mug/articleshow/68604972.cms
Crypto-News India	Indian Blockchain Group Aims to Unite All Stakeholders in the Community	https://www.crypto-news.in/news/indian-blockchain-group-aims-unite-stakeholders-community/
The Hindu	Micro-Chips: Blockchain technology	https://www.thehindu.com/sci-tech/technology/internet/chain-of-trust-microchips-blockchain/article26174632.ece
BTC Wires	Indian Crypto Community Protests Take Pace Against Supreme Court’s Crypto Banking Ban	https://www.btcwires.com/c-buzz/indian-crypto-community-protests-take-pace-against-supreme-courts-crypto-banking-ban/
BTC Wires	Indian Crypto Dilemma and What Future Holds for Indian Crypto Community	https://www.btcwires.com/round-the-block/indian-crypto-dilemma-and-what-future-holds-for-indian-crypto-community/
Cryptoline News	The Indian crypto community meets to suggest regulatory ideas to the government	https://www.cryptolinenews.com/regulations/the-indian-crypto-community-meets-to-suggest-regulatory-ideas-to-the-government/
inc42	Bengaluru Tops Crypto-Related Jobs Survey, While Mumbai Slips Behind	https://inc42.com/buzz/bengaluru-tops-crypto-related-jobs-survey-while-mumbai-slips-behind/
Crypto-News India	Binance Conducts Fourth India Meetup in Bangalore	https://www.crypto-news.in/news/binance-conducts-fourth-india-meetup-bangalore/
Forbes India	On the crypto fence	http://www.forbesindia.com/article/investment-special-2019/on-the-crypto-fence/52857/1

12. References

[1]Reserve Bank of India, Press Release No. 1, dated 23 December 2013, available at https://rbi.org.in/scripts/ BS_PressReleaseDisplay.aspx?prid=30247.

[2]Nakamoto, Satoshi, "Bitcoin: A Peer-to-Peer Electronic Cash System", dated 31 October 2008, available at https://bitcoin.org/bitcoin.pdf.

[3]Reserve Bank of India, Press Release No. 1, dated 23rd December 2013, available at https://rbi.org.in/Scripts/ BS_PressReleaseDisplay.aspx?prid=30247.

[4]Reserve Bank of India, Press Release No. 1, dated 23rd December 2013, available at https://rbi.org.in/Scripts/ BS_PressReleaseDisplay.aspx?prid=30247.

[5]Reserve Bank of India, Press Release No. 1, dated 23rd December 2013, available at https://rbi.org.in/Scripts/ BS_PressReleaseDisplay.aspx?prid=30247.

[6]Reserve Bank of India, Press Release No.2, dated 1st February 2017, available at https://rbi.org.in/Scripts/ BS_PressReleaseDisplay.aspx?prid=39435.

[7]R. Ayyar, "Cryptocurrency startups launch Digital Asset and Blockchain Foundation of India", The Times of India, dated 27 February 2017, available at https://timesofindia.indiatimes.com/business/india-business/ cryptocurrency-startups-launch-digital-asset-and-blockchain-foundation-of-india/articleshow/57373235. cms.

[8]R. Ayyar, "Cryptocurrency startups launch Digital Asset and Blockchain Foundation of India", The Times of India, dated 27 February 2017, available at https://timesofindia.indiatimes.com/business/india-business/ cryptocurrency-startups-launch-digital-asset-and-blockchain-foundation-of-india/articleshow/57373235. cms.

[9]K. R. Srivats, "Panel on crypto-currency submits report to Jaitley", Hindu Business Line, dated 07 August 2017, available at https://www.thehindubusinessline.com/economy/policy/panel-on-cryptocurrency-submits-report-to-jaitley/article9805978.ece.

[10]Reserve Bank of India, Report of the Working Group on FinTech and Digital Banking, dated 23rd November, 2017, available at https://rbidocs.rbi.org.in/rdocs/PublicationReport/Pdfs/ WGFR68AA1890D7334D8F8F72CC2399A27F4A.PDF.

[11]Reserve Bank of India, Press Release No.3, dated 5th December 2017, available at https://rbi.org.in/Scripts/ BS_PressReleaseDisplay.aspx?prid=42462.

[12]Reserve Bank of India, Statement on Developmental and Regulatory Policies, dated 4th April 2018, available at

https://rbidocs.rbi.org.in/rdocs/PressRelease/PDFs/PR23654E42140EAC6347D1A9D08AF62F5BF2E9.PDF; Reserve Bank of India, Press Release, dated 5th April 2018, available at https://www.rbi.org.in/Scripts/BS_ PressReleaseDisplay.aspx?prid=43574.

[13]Reserve Bank of India, Index to RBI Circulars, Prohibition on dealing in Virtual Currencies (VCs), dated 6th April 2018, available at https://rbi.org.in/Scripts/BS_CircularIndexDisplay.aspx?Id=11243.

[14]Reserve Bank of India, Index to RBI Circulars, Prohibition on dealing in Virtual Currencies (VCs), dated 6th April 2018, available at https://rbi.org.in/Scripts/BS_CircularIndexDisplay.aspx?Id=11243.

[15]Reserve Bank of India, Index to RBI Circulars, Prohibition on dealing in Virtual Currencies (VCs), dated 6th April 2018, available at https://rbi.org.in/Scripts/BS_CircularIndexDisplay.aspx?Id=11243.

[16]Reserve Bank of India, Index to RBI Circulars, Prohibition on dealing in Virtual Currencies (VCs), dated 6th April 2018, available at https://rbi.org.in/Scripts/BS_CircularIndexDisplay.aspx?Id=11243.

[17]Siddharth Dalmia v. Union of India [W.P.(C) No. 001071/2017], Dwaipayan Bhowmick v. Union of India [W.P.(C) No. 001076/2017], Rajdeep Singh v. Reserve Bank of India [W.P.(C) No. 000373/2018], Internet and Mobile Association of India v. RBI [W.P.(C) No. 000528/2018], RBI v. Kali Digital Ecosystems Pvt Ltd [T.P.(C) No. 000961 – 000963 / 2018].

[18]Siddharth Dalmia v. Union of India [W.P. (C) No. 001071/2017].

[19]Dwaipayan Bhowmick v. Union of India [W.P. (C) No. 001076/2017].

[20]Rajdeep Singh v. Reserve Bank of India [W.P. (C) No. 000373/2018], Internet and Mobile Association of India v. RBI [W.P. (C) No. 000528/2018].

[21]Suprita Anupam, Cryptocurrency Case: IAMAI Petition Not Based In Law Or On Facts, Says RBI, Inc42, dated 21st September 2017, available at https://inc42.com/buzz/cryptocurrency-case-iamai-petition-not-based-in-law-or-on-facts-says-rbi/.

[22]Economic Times, "SC postpones crypto ban case hearing to July", dated 29th March 2019, available at https://tech.economictimes.indiatimes.com/news/technology/sc-postpones-crypto-ban-case-hearing-to-july/68629997.

[23]European Central Bank, Virtual Currency Schemes, para 2.1 at page 13, dated October 2012, available at https://www.ecb.europa.eu/pub/pdf/other/virtualcurrencyschemes201210en.pdf.

[24]Reserve Bank of India, Index to RBI Circulars, Prohibition on dealing in Virtual Currencies (VCs), dated 06 April 2018, available at https://rbi.org.in/Scripts/BS_CircularIndexDisplay.aspx?Id=11243.

[25]European Central Bank, Virtual Currency Schemes, para 2.1 at page 13, dated October 2012, available at

https://www.ecb.europa.eu/pub/pdf/other/virtualcurrencyschemes201210en.pdf.

[26]Arthur R. Bos, Cryptocurrencies and Regulation, a Master Thesis on the best practices for regulating cryptocurrencies within the EU, Universiteit Leiden, Page 28-29, available at

https://openaccess.leidenuniv.nl/bitstream/handle/1887/64833/MA%20Thesis%20-%20Arthur%20Bos.pdf?sequence=1.

[27]Arthur R. Bos, Cryptocurrencies and Regulation, a Master Thesis on the best practices for regulating cryptocurrencies within the EU, Universiteit Leiden, Page 28-29, available at

https://openaccess.leidenuniv.nl/bitstream/handle/1887/64833/MA%20Thesis%20-%20Arthur%20Bos.pdf?sequence=1.[28]FATF, About FATF, available at http://www.fatf-gafi.org/trash/aboutfatf/whatisfatf/aboutthefatf.html.

[28]Cameron Wesley Carpenter, KYC, AML, and the SEC: Exchange and ICO Regulations, dated 16 June 2018 available at https://blog.blockmatics.io/kyc-aml-and-the-sec-exchange-and-ico-regulations.

[29]Nathan Jessop, A brief history of bitcoin – and where it's going next, dated 29 March 2015, available at https://thenextweb.com/insider/2015/03/29/a-brief-history-of-bitcoin-and-where-its-going-next/.

[30]Cameron Wesley Carpenter, KYC, AML, and the SEC: Exchange and ICO Regulations, dated 16 June 2018 available at https://blog.blockmatics.io/kyc-aml-and-the-sec-exchange-and-ico-regulations.

[31]Marco Santori, Bitcoin Law: What US businesses need to know, dated 17 August 2013, available at https://www.coindesk.com/bitcoin-law-what-us-businesses-need-to-know.

[32]Annabelle Lapshina, Why crypto exchanges need KYC and AML, dated 06 April 2019, available at https://

medium.com/letknownews/why-crypto-exchanges-need-kyc-and-aml-ac410146aa28.

[33]Annabelle Lapshina, Why crypto exchanges need KYC and AML, dated 06 April 2019, available at https:// medium.com/letknownews/why-crypto-exchanges-need-kyc-and-aml-ac410146aa28.

[34]Craig Adeyanju, What Crypto Exchanges Do to Comply With KYC, AML and CFT Regulations, dated 17 May 2019, available at https://cointelegraph.com/news/what-crypto-exchanges-do-to-comply-with-kyc-aml-and-cft-regulations.

[35]Craig Adeyanju, What Crypto Exchanges Do to Comply With KYC, AML and CFT Regulations, dated 17 May 2019, available at https://cointelegraph.com/news/what-crypto-exchanges-do-to-comply-with-kyc-aml-and-cft-regulations

[36]Annabelle Lapshina, Why crypto exchanges need KYC and AML, dated 06 April 2019, available at https:// medium.com/letknownews/why-crypto-exchanges-need-kyc-and-aml-ac410146aa28.

[37]Shufti Pro, Cryptocurrency Exchanges and negative KYC Compliance, available at https://shuftipro.com/ blogs/cryptocurrency-exchanges-and-negative-kyc-compliance/.

[38]Payment Card Industry Data Security Standard, available at https://www.pcisecuritystandards.org/ document_library?category=educational_resources&document=pci_best_practices_for_maintaining_ compliance.

[39]The Payment Card Industry Security Standards Council, website available at https://www.pcisecuritystandards. org/.

[40]The Payment Card Industry Security Standards Council, LEADERSHIP, available at https://www. pcisecuritystandards.org/about_us/leadership.

[41]evok3d, Japan's "self-regulated" Cryptocurrency Industry, Bitcoin's Vulnerability and DEXs, dated 11 December 2018, available at https://medium.com/chainrift-research/japans-self-regulated-cryptocurrency-industry-bitcoin-s-vulnerability-and-dexs-7e48c361ebc5.

[42]Lisk, What is Decentralization, available at https://lisk.io/academy/blockchain-basics/benefits-of-blockchain/ what-is-decentralization.

[43]Taiga Uranaka, Japan grants cryptocurrency industry self-regulatory status, dated 24 October 2018, available at https://in.reuters.com/article/us-japan-cryptocurrency/japan-grants-cryptocurrency-industry-self-regulatory-status-idINKCN1MY10W.

[44]Omar Faridi, Japan's Virtual Currency Exchange Association (JVCEA) Now Authorized As Self-Regulatory Body, dated 24 October 2018, available at https://www.cryptoglobe.com/latest/2018/10/japan-s-virtual-currency-exchange-association-jvcea-now-authorized-as-self-regulatory-body/.

[45]Taiga Uranaka, Japan grants cryptocurrency industry self-regulatory status, dated 24 October 2018, available at https://in.reuters.com/article/us-japan-cryptocurrency/japan-grants-cryptocurrency-industry-self-regulatory-status-idINKCN1MY10W.

[46]Taiga Uranaka, Japan grants cryptocurrency industry self-regulatory status, dated 24 October 2018, available at https://in.reuters.com/article/us-japan-cryptocurrency/japan-grants-cryptocurrency-industry-self-regulatory-status-idINKCN1MY10W.

[47]King & Spalding, Japan Continues to Embrace Cryptocurrency with Launch of Self-Regulatory Organization: Will the US or Other Countries Follow Suit?, dated 05 November 2018, available at https://www.kslaw.com/ news-and-insights/japan-continues-to-embrace-cryptocurrency-with-launch-of-self-regulatory-organization-will-the-us-or-other-countries-follow-suit#_edn1.

[48]Mike Orcutt, Will people ditch cash for cryptocurrency? Japan is about to find out, dated 22 January 2019, available at https://www.technologyreview.com/s/611656/will-people-ditch-cash-for-cryptocurrency-japan-is-about-to-find-out/.

[49]Robert Johnson, SEC Commissioner Believes Crypto Markets Should Self Regulate, dated 12 March 2019, available at https://cryptodaily.co.uk/2019/03/sec-commissioner-believes-crypto-markets-should-self-regulate.

[50]Max Yakubowski, Japan's Financial Regulator Wants Crypto Industry to 'Grow Under Appropriate Regulation', dated 23 August 2018, available at https://cointelegraph.com/news/japans-financial-regulator-wants-crypto-industry-to-grow-under-appropriate-regulation.

[51]Bittrex, Homepage, available at https://bittrex.zendesk.com/hc/en-us.

[52]Bill, IP and Crypto Address Whitelisting, dated 08 April 2017, available at https://bittrex.zendesk.com/hc/en-us/articles/115005595768-IP-and-Crypto-Address-Whitelisting.

[53]Bill, IP and Crypto Address Whitelisting, dated 08 April 2017, available at https://bittrex.zendesk.com/hc/en-us/articles/115005595768-IP-and-Crypto-Address-Whitelisting.

[54]The Bitstamp Team, NEW FEATURE: Withdrawal Address Whitelisting, available at https://www.bitstamp.net/article/new-feature-withdrawal-address-whitelisting/.

[55]Eric Winer, Cold Storage, Keys & Crypto: How Gemini Keeps Assets Safe, dated 12 February 2019, available at https://medium.com/gemini/cold-storage-keys-crypto-how-gemini-keeps-assets-safe-a732addcd13b.

[56]Max Yakubowski, Survey: 41% of Institutional Investors to Invest in ICOs Within Five Years, dated 15 February 2019, available at https://cointelegraph.com/news/survey-41-of-institutional-investors-to-invest-in-icos-within-five-years.

[57]Samantha Mitchell, New Registry for Whitelisted Cryptocurrency Businesses in Russia, dated 16 July 2018, available at https://coinrevolution.com/new-registry-for-whitelisted-cryptocurrency-businesses-in-russia/.

[58]Kevin Helms, Russia Now Has a Registry of Whitelisted Crypto Companies, dated 16 July 2018, available at https://news.bitcoin.com/russia-registry-whitelisted-crypto-companies/.

[59]Kevin Helms, Russia Now Has a Registry of Whitelisted Crypto Companies, dated 16 July 2018, available at https://news.bitcoin.com/russia-registry-whitelisted-crypto-companies/.

[60]Kevin Helms, Russia Now Has a Registry of Whitelisted Crypto Companies, dated 16 July 2018, available at https://news.bitcoin.com/russia-registry-whitelisted-crypto-companies/.

[61]Kevin Helms, Russia Now Has a Registry of Whitelisted Crypto Companies, dated 16 July 2018, available at https://news.bitcoin.com/russia-registry-whitelisted-crypto-companies/.

[62]Bajaj Allianz General Insurance Co. Ltd., Individual Cyber Safe Insurance Policy, available at https://www.bajajallianz.com/Corp/content/commercial-insurance/liability/Cyber-Safe-Individual.pdf; also see HDFC ERGO General Insurance Company Ltd., Cyber Security Insurance, dated 14 September 2016, available at: https://www.hdfcergo.com/documents/downloads/Brochures/cyber-security%20brochure.pdf; Tata AIG Insurance Company Limited, Cyber Risk Protector, available at https://www.tataaig.com/content/dam/tagic/PDF/policy_wordings/Cyber_Risk_Protector.pdf.

[63]Crypto-currencies starting to get insurance – a sure sign of legitimacy, available at https://www.businesslive.co.za/bd/world/2018-02-01-crypto-currencies-starting-to-get-insurance--a-sure-sign-of-legitimacy/.

[64]Digfin Group, Altairian to launch third-party insurance on crypto, dated 23 May 2018, available at https://www.digfingroup.com/altairian/.

[65]Alun John, Cryptocurrency industry faces insurance hurdle to mainstream ambitions, dated 20 December 2018, available at https://in.reuters.com/article/crypto-currency-insurance/cryptocurrency-industry-faces-insurance-hurdle-to-mainstream-ambitions-idINKCN1OJ0CW.

[66]Alun John, Cryptocurrency industry faces insurance hurdle to mainstream ambitions, dated 20 December 2018, available at https://in.reuters.com/article/crypto-currency-insurance/cryptocurrency-industry-faces-insurance-hurdle-to-mainstream-ambitions-idINKCN1OJ0CW.

[67]KPMG, Institutionalization of cryptoassets, dated November 2018, available at https://assets.kpmg/content/dam/kpmg/us/pdf/2018/11/institutionalization-cryptoassets.pdf.

[68]Bloomberg, Coinbase Inc. company profile, available at https://www.bloomberg.com/profile/company/0776164D:US.

[69]Ali Raza, Crypto Asset Custody Insurance Services May Be the Secret to Success for Institutional Investment, dated 21 May 2018, available at https://bitcoinexchangeguide.com/crypto-asset-custody-insurance-services-may-be-the-secret-to-success-for-institutional-investments/.

[70]Ian Allison, $255 Million: Coinbase Confirms Extent of Crypto Insurance Coverage, dated 02 April 2019, available at https://www.coindesk.com/coinbase-insurance-coverage.

[71]Philip Martin, On insurance and cryptocurrency, dated 03 April 2019, available at https://blog.coinbase.com/on-insurance-and-cryptocurrency-d6db86ba40bd?gi=bc5d61c55b0b.

[72]C. E. Kelso, Coinbase Remains the Most Successful and Important Company in the Crypto Industry, dated 14 May 2018, available at https://news.bitcoin.com/coinbase-remains-the-most-successful-and-important-company-in-the-crypto-industry/.

[73]Ian Allison, $255 Million: Coinbase Confirms Extent of Crypto Insurance Coverage, dated 2 April 2019, available at https://www.coindesk.com/coinbase-insurance-coverage.

[74]Max Yakubowski, Survey: 41% of Institutional Investors to Invest in ICOs Within Five Years, dated 15 February 2019, available at https://cointelegraph.com/news/survey-41-of-institutional-investors-to-invest-in-icos-within-five-years.

[75]Securities and Futures Commission, Conceptual framework for the potential regulation of virtual asset trading platform, at page 5, dated 1 November 2018, available at https://www.sfc.hk/web/EN/files/ER/PDF/App%202_%20Conceptual%20framework%20for%20VA%20trading%20platform_eng.pdf.

[76]Senate and the House of Assembly of Bermuda, Digital Asset Business Act 2018, at section 18(1), dated 2018, available at http://www.bermudalaws.bm/laws/Annual%20Laws/2018/Acts/Digital%20Asset%20Business%20Act%202018.pdf.

[77]Financial Services Commission Mauritius, Regulatory Framework for the Custodian Services (Digital Seet) Licence, at Paragraph 8, Page 10, dated 05 November 2018, available at https://news.bitcoin.com/mauritius-regulator-to-provide-licenses-to-digital-asset-custodians/.