Dynamic Coalition on Blockchain Technologies

Substantive Session Paper - Internet Governance Forum 2016

1. Introduction

Critical and timely issues in the blockchain domain are directly relevant to the IGF's 2016 theme "Enabling Inclusive and Sustainable Growth". How the technology, and the corresponding policies and social culture around it, matures, will have significant impact on the IGF's core mission moving forward.

The blockchain is a new technical solution that enables people to interact with each other in a decentralized manner and to transact on a peer-to-peer basis independently from any intermediary or trusted authority. These technologies offer us the opportunity to reformulate and redefine our mechanisms, architectures and logic of (1) resource allocation and (2) human cooperation. These opportunities, as well as the corresponding challenges, are not only critically timely, but also lie at the heart of IGF's 2016 theme "Enabling Inclusive and Sustainable Growth."

Decentralization is increasingly seen as a goal in and of itself, rather than a means to a goal. Furthermore, the public discourse around decentralization, particularly in the rapidly emergent blockchain space, has often conflated distribution of technical infrastructure, with distribution of control. Further, distribution of control applies not only to distribution of resources, but distribution of power vis-a-vis governance mechanisms.

The bulk of efforts in this domain are currently focused on decentralizing the technology at the protocol and infrastructure level, but little attention is paid to how the technology is wielded in the end - who controls, who can access, who benefits. Many blockchain developers think that building such a decentralized technology is enough to enable people to become more free and empowered, but this is not necessarily true. The more fundamental issue to address is formulating decentralized power in the context of the architectures of these technologies. Thus, we need to address not only the technical development of the underlying protocols (protection against sybil attacks or other form of takeovers at the infrastructure layer), but also the legal and policy infrastructure, all of which are being rapidly developed and deployed in real-time today, with its effects reverberating across the globe.

If decentralization is the means to goal, rather than the goal itself, we should move our focus beyond basic distribution of infrastructure in decentralized technologies, and instead identify the specific goals that the infrastructure is designed to achieve. With multistakeholder collaboration, we will collectively map out and bake in these goals as design criteria for decentralized architectures such as blockchains.

We will therefore shift the design criteria discussion in the development of blockchain-based applications, which are all currently related to technical soundness only, to the critical policy and governance issues. One view might be that the more decentralized a technology is, the more vulnerable that technology becomes to certain external (social, market) forces which might try to co-opt the system in order to promote private interests. It is clear that a decentralized system does not remove the human elements, but it makes certain actions public, more visible. A decentralized system still requires distribution of power and decision-making mechanisms. In such a system, the formerly “hard power” of centralized systems and identified actors may morph into new forms of “soft power” and unidentified and/or new forms of gatekeepers. Thus, it is not enough to build decentralized infrastructures, we also need to consider institutional re-concentration.

Stakeholders should formulate a system that is resilient against a take-over at the institutional (social, economic or political) layer, that enables as a design criteria open access, inclusiveness and distribution of control, and that address governance and decision-making in the context of blockchain’s decentralized architecture.

2. Relevance to IGF

The blockchain discussion is gaining great political momentum as it lies at the very nexus of the core issues we face in the 21st century: Internet policy (identity, trust, reputation, privacy and security), the Internet of Things (and corresponding implications for responsive architecture, smart cities, self-organizing and autonomous entities), government and corporate accountability, challenges to traditional oversight mechanisms and the adaptation of legal paradigms to distributed architecture, emergent monetary/economic policy and challenges to loss of sovereignty of central banks, financial inclusion and fair access for the developing world, new metrics of value for information economies that transcend GDP measures of market growth, deployment of P2P commons-based production, and local coordination and scalable development of new social and incentive structures. Indeed, many legislators around the globe are currently scrutinising the opportunity to elaborate and adopt legislation on blockchain technologies such as Bitcoin and Ethereum. In view of the confusion and sheer complexity

surrounding the various ways to approach these multifaceted, multidisciplinary technologies, it is vitally important to address blockchain policy issues through a multistakeholder approach.

3. Current Efforts of Dynamic Coalition

The Dynamic Coalition for Blockchain Technologies, COALA, is an international multidisciplinary collaborative research and development initiative that endeavours to bring clarity in the field of blockchain technologies, smart contracts and decentralized autonomous applications. COALA comprises the Dynamic Coalition on Blockchain Technologies at the IGF and well as the W3C's Working Group on Cryptoequity.

The DC brings together diverse stakeholders - from diverse experts to global institutions - to facilitate the development and deployment of blockchain-based applications alongside governance policies that enable innovation. COALA's work drives blockchain technology policy, technical development, and next-generation applications at global scale.

COALA working groups are composed of academics, lawyers, economists, programmers, protocol architects, cryptographers, security experts, technologists, and entrepreneurs, amongst other disciplines. We provide a holistic state-of-play regarding these technologies, to drive fact-based policy, technical research and development of blockchain infrastructure, and proof-of-concept applications.

The DC is distinct from the few advocacy, proprietary, trade organization, and lobbying efforts that exist in this domain. COALA provides neutral, fact-based, multistakeholder collaboration and research in these emergent technologies.

The DC is a collaborative community eager to explore the implications and deployment of blockchain technologies at the nexus of our evolving social and economic order in the 21st century. We want people to think about how the future of the Internet and society will look like in a world of ubiquitous connectivity, our lives and nad devices interconnected across complex, decentralized networks, where we recognize our abundance, and, perhaps, prosper in collaboration rather than mere competition.

DC WORKING GROUPS

DC Working group members convene for two days at each COALA workshop, tackling fundamental opportunities and challenges across our key areas of focus to create actionable output.

Security & Governance

COALA's Security and Governance Working Group focuses on the use of multisignature technology and smart contracts for enhanced information security and institutional governance. Our group explores challenges and opportunities in light of new generation security concerns that have emerged in parallel with the emergence of blockchain.

Smart Contracts

COALA's Smart Contracts Working Group explores the development of smart contracts that allow for deployment of new financial instruments, economic transactions, and organizational coordination based on a system of trustless relationships. We also explore new opportunities for technological due process and institutional accountability with smart contracts.

Cryptographic Tokens

COALA's Crypto-token Working Group explores blockchain technology as a novel way of issuing and coordinating secure and tradable tokens that can include types of information, such as underlying asset value, indicia of ownership over specific goods or assets, as well as non-financial, beneficiary and/or decision making rights.

Identity & Privacy

COALA's Identity and Privacy Working Group addresses the fundamental problem of trust on a trustless internet. Specifically, our group explores the ways in which blockchain technologies may serve as public utilities for source authentication and credentialing to provide improved information security.

Blockchain Economics

COALA's Blockchain Economic Working Group explores the impact of non-state-sponsored currencies on systemic risk, specially capital markets and national monetary policies, as well as protocol incentive structures.

Intellectual Property

The COALA IP Working Group explores specific facets of how blockchain and other technologies may support, complement, or supplement intellectual property.

Distributed Autonomous Organisations

The COALA DAO Working Group explores the challenges and opportunities provided by Distributed Autonomous Organizations (DAOs).

Policy & Regulation

COALA's Policy & Regulation Working Group explores and deploys adaptive and novel regulatory and policy frameworks for blockchain technology that will promote innovation and growth whilst ensuring systemic financial stability and protecting consumers and businesses against economic harm and illegal activity.

Published Reports

The Working Groups currently have a significant number of reports that are being drafted. Published reports of the Working Groups can be accessed at the following links:

- "A Blockchain Glossary", by the Working Group on Policy & Regulation: http://coala.global/15990/a-blockchain-glossary/

- "A Primer on Cryptosecurities", by the Working Group on Cryptographic Tokens: http://coala.global/15981/a-primer-on-cryptosecurities/

- "How Blockchains Can Support, Complement or Supplement Intellectual Property", by the Working Group on Intellectual Property: http://coala.global/15988/how-blockchains-can-support-complement-or-supplement-intellectual-property/

4. Key Discussion Points

We expect a robust dialogue that will integrate various stakeholders' policy approaches, and lessons learned from other relevant domains. In particular, we hope to address some of the following points as a group:

- Is centralization the key threat to open access, inclusion and sustainability? Will avoidance of centralization (at any layer - protocol or social) enable inclusion and sustainability?
- Can a technological artifact alone protect itself from centralization at the social / institutional layer by incorporating a particular design feature that makes it impossible, or at least harder to implement institutional centralisation?
- Do we need an institution to protect a technology against institutional centralisation? (e.g. just like governmental intervention is required to protect the "free market" against oligarchic tendencies).

- What kind of normative steps do we need to foster to manage “soft power” in decentralized decision-making?

5. Expected Results

- Exploration of current implementations of decentralized organisations and analysing their specific governance structures, including areas critical for improvement for future implementations.

- Identification of key regulatory hurdles that prevent deployment of decentralized organisational structures.

- Blueprint of key issues for a new distributed governance structure based on blockchain technology for decentralized decision-making and resource distribution.