DECENTRALIZED NETWORK GOVERNANCE: BLOCKCHAIN TECHNOLOGY AND THE FUTURE OF REGULATION

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ABSTRACT

- The advancements in the digital domain, are increasingly shaping the lives of individuals, groups, organization, and societies.
- These developments call for effective governance .
- This paper reviews the literature on governance theory.
- The paper will argue that **current dominant modes** of governance are inadequate in understanding governance in the digital domain and are poorly equipped for novel forms such as DAOs.
- Also, role that blockchain technology can play in what we term *decentralized network governance..*

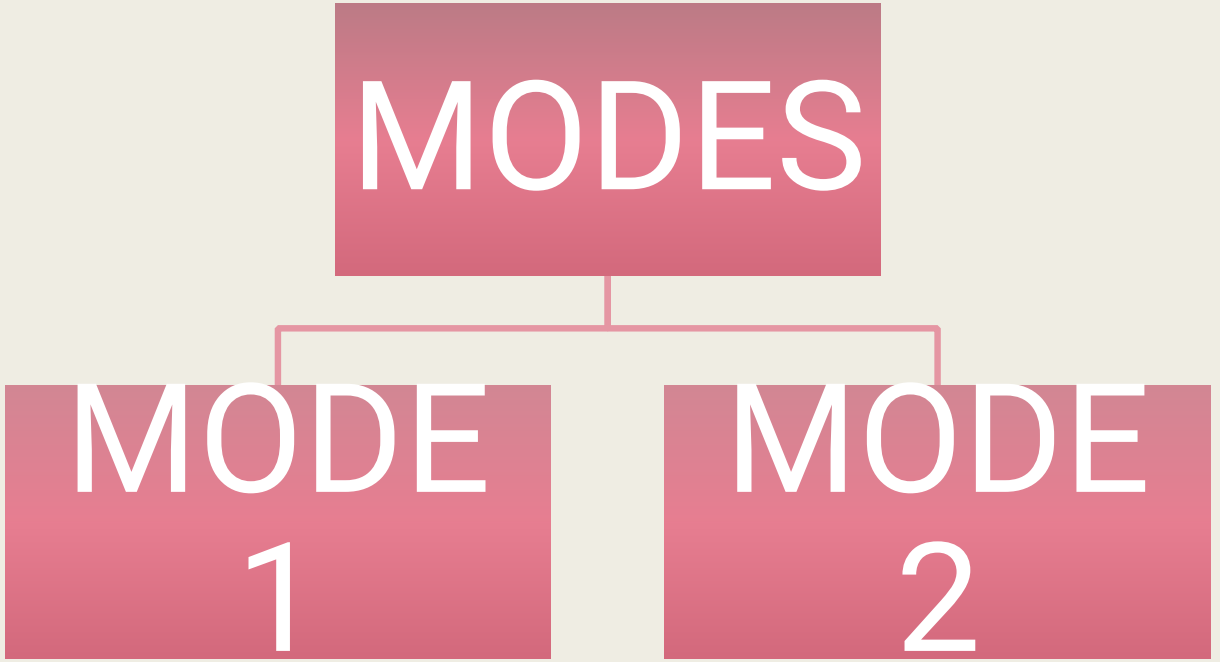
INTRODUCTION

- The blockchain technology potentially **allows individuals and communities to redesign** their interactions in politics, business and society at large,with an unprecedented process of disintermediation on large scale, based on automated and trustless transactions.
- This process might rapidly change ,even belief that replace existing system.
- Indeed, many blockchain advocates claim that the civil society could organize itself and protect its own interests more effectively, by replacing traditional system with Blockchain based service and decentralized.
- Many enthusiasts simply promote the blockchain as a more efficient, decentralized and consensus-driven public repository, which can have a number of applications in order to make citizens less dependent on governments.

Modes of governance

- The digital domain requires regulation and governance in order to establish a more legitimate and ultimately productive balance of power.
- This concerns the best manner how to conceive and conceptualize such norms and rules.
- Governance is often depicted by distinguishing between ‘old’ and ‘new’ governance.
- ‘Old’ refers to hierarchical structures of, mostly, state institutions.
- ‘New’ refers to the emergence of more horizontal modes of policy-making under pressures of globalization and the functional differentiation of sectors of society.
- However, this ‘old’ and ‘new’ often co-exist in practice, and a clear temporal distinction cannot be located we refer to these as Mode 1 referring to governance roles and Mode 2 referring to power relationships.

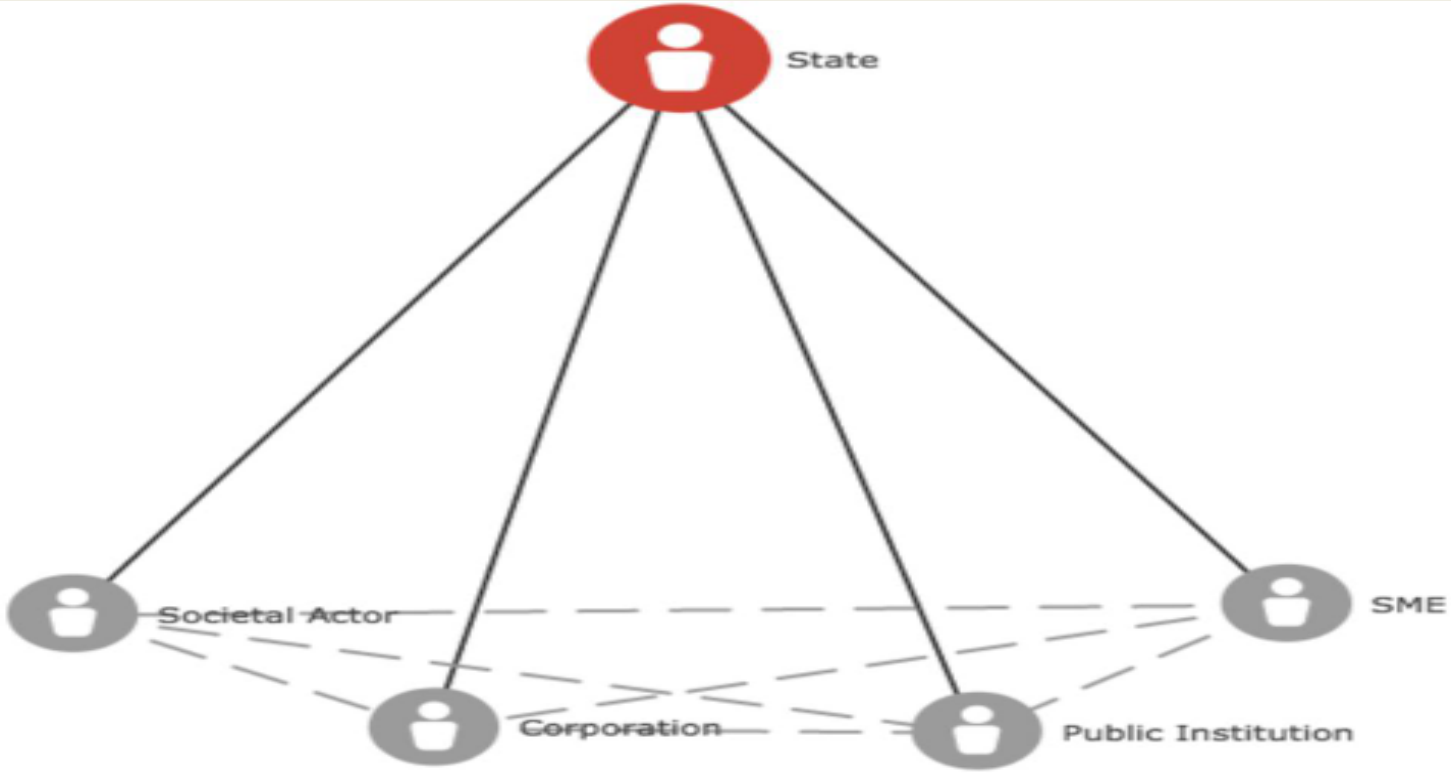
Modes of governance



1. Mode 1 governence

- Mode 1 governance, or ‘old’ governance refers to governance through, primarily, the hierarchical command-and-control structures of the state and other public hierarchies.
- It relies on authoritative institutions for policy-making through the enforcement of hard law.
- Mode 1 governance is inherently political and institutional.
- Furthermore, this mode of governance can be interpreted as identity-based.
- Within identity-based governance, roles are assigned to and/or performed by actors based on who these actors are, i.e., their identity.
- The state’s identity is seen as being an authoritative and legitimate public body acting as sovereign over a territory and as source of law and policy.
- Intermediary institutions perform governance roles only through delegated authority by the state.

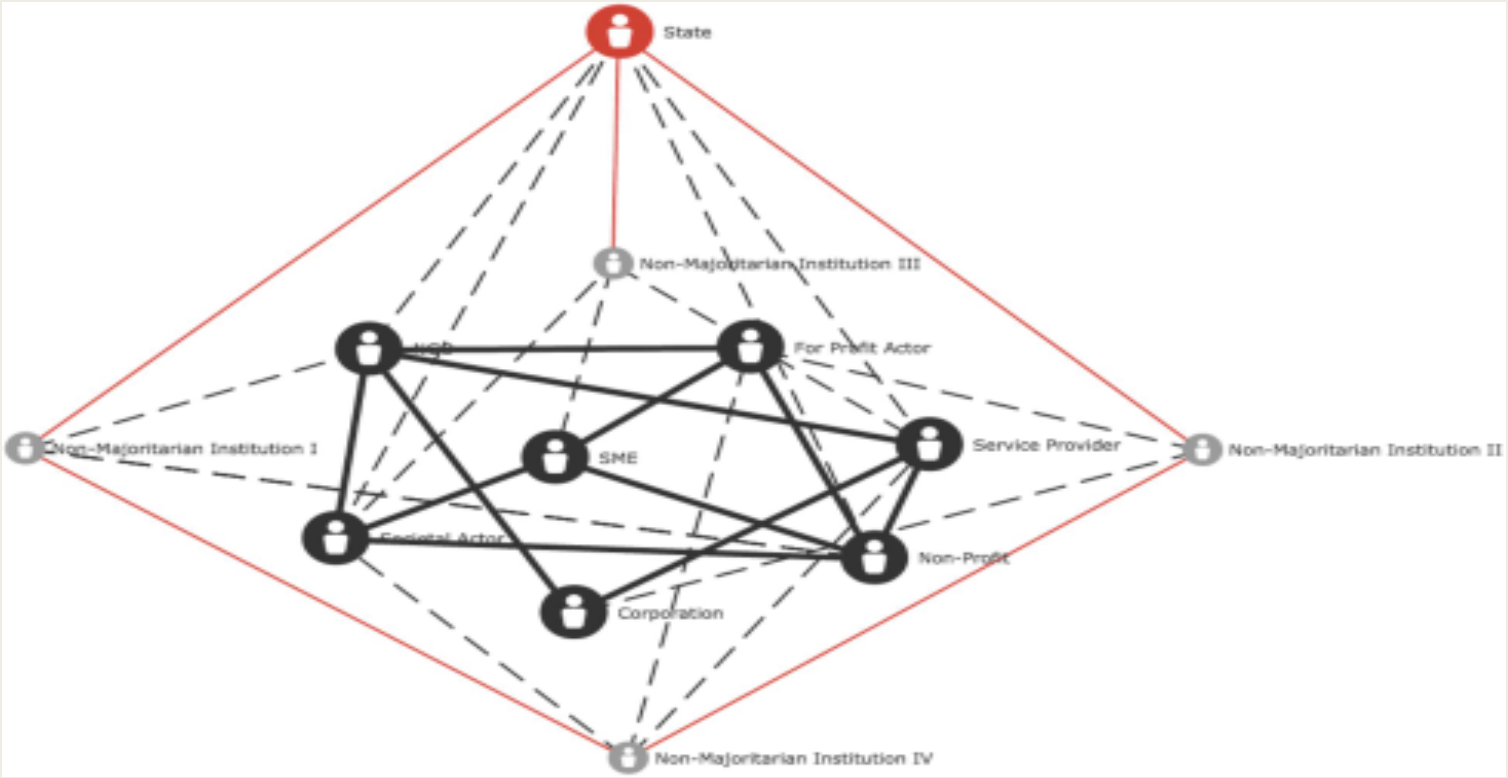
1. Mode 1 governence



2. Mode 2 governence

- Mode 2 governance, or ‘new’ governance represents a move away from the vertical command-and-control structures of the state towards more horizontal modes of policy-making.
- This approach creates a more levelled playing field between societal actors, both private and public.
- Authority is not necessarily acquired by identity but rather through performance, knowledge, and expertise.
- The authority to make, implement, and enforce policies lies with the state or those it delegates to do so.
- Public-private partnerships, policy-networks, and private governance all reflect the nature of a world in which the state arguably no longer is the central governing authority.
- Codes of conduct and other corporate sectorial agreements on standards of production or quality, soft-law, negotiation, compromise, and competition are all instances of Mode 2 governance mechanisms.
- As such, Mode 2 governance changes the roles and power relationships of and between actors involved in policy-making or subject to these policies.
- Different forms of Mode 2 are role-based in the distribution of governance tasks as opposed to identity-based.

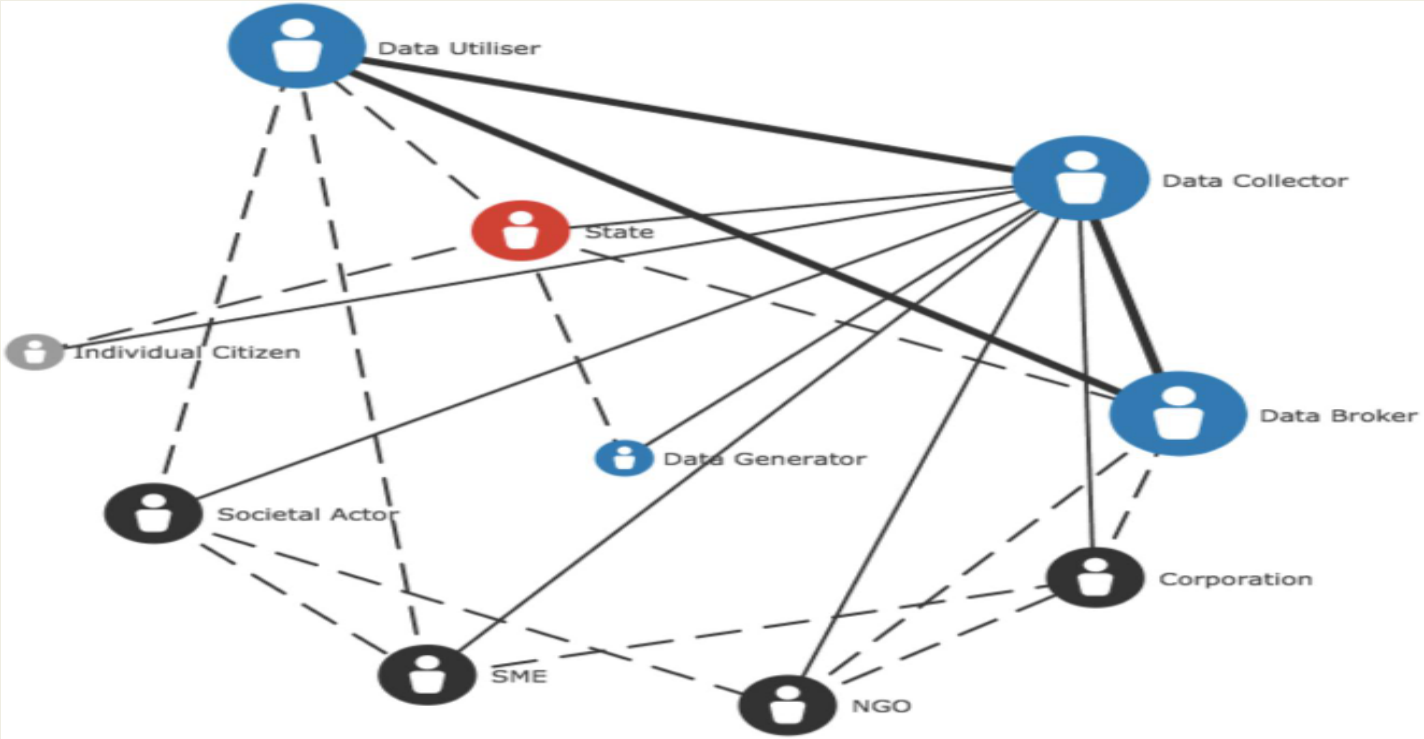
2. Mode 2 governence



3. Decentralized Network Governance and blockchain technology

- Modes of governance rely on conceptions of the relevant aspects of power relationships to be governed.
- The employment of traditional modes of governance threatens to undermine the benefits that technological innovations such as blockchain and digital ledger technology have to offer.
- Overregulation or the application of inadequate mechanisms often reduce the potential benefits of digital technologies.
- We propose a novel network approach to governance that is more tailored to the decentralized nature of governance structures that can generally be found in blockchain solutions and DAOs more specifically.
- In our approach, governance tasks are distributed neither on the basis of the identity of actors nor on the basis of the role they can perform.
- Given that different actors perform multiple roles, often simultaneously, within blockchain structures the relational nature of power is fundamental to this conception of governance.

3. Decentralized Network Governance and blockchain technology



3. Decentralized Network Governance and blockchain technology

- Within decentralized network governance, roles are variable to the nature of the network and the relations within it.
- This requires that the distribution of governance tasks, rights, and obligations are sensitive to relationships of power between actors, also the mechanisms should be flexible.
- Moreover, as new aspects of power relationships become relevant in blockchain-based solutions, such as server providers, miners etc., governance mechanisms should address these forms.
- . In different roles and relationships, multiple actors can possess each of the novel network powers.
- Mode 3 governance tacitly implies power by being an actor in a networked environment.
- This power is a function of connectivity and the possibility making use of this connectivity for policy change.
- It allows actors to define their own role by choosing alliances dependent on the issues that are at stake. By choosing alliances, networked actors assume governance functions within the network.

3. Decentralized Network Governance and blockchain technology

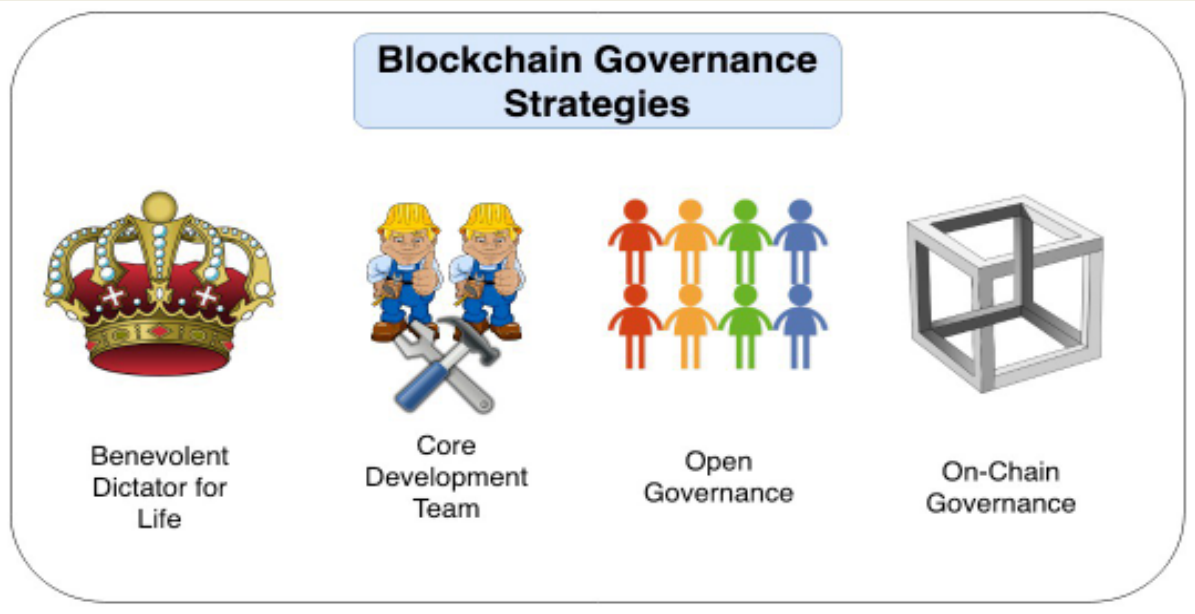
MODE	ALTERNATIVE TERMS	POWER-RELATIONS	FUNCTION
Mode I	Old Governance	Static	Identity-based
Mode II	New Governance (in instances Network Governance)	Static or Variable (dependent on whether roles are fixed)	Role-based
Mode III	Decentralized Network Governance	Dynamic	Fluid

What Is Blockchain Governance?

- All organizations and software development projects need a way to agree on and to finalise each decision along the roadmap.
- Effective blockchain governance includes:-
  - ***Incentives*** - Without incentives, members won't participate in governance and the blockchain will become less aligned with user needs over time.
  - **Methods of coordination -** Without a method for members to coordinate, it will be impossible for a blockchain network to come to an agreement on future changes.
- blockchain is an **evolving system** which needs to change to meet the needs of its users. the blockchain needs to make changes and needs a way to make final decisions on what these changes should be.

Blockchain Governance Strategies

Different blockchain governance strategies have been proposed and implemented for different blockchains.



Blockchain Governance Strategies

1. **Benevolent Dictator for Life** –

the **creator of the blockchain** is the final authority on all decisions regarding the blockchain.

An example of this type of leadership is Facebook

2. **Core Development Team –**

A team of the most **active developers** decides what functionality should or shouldn't be included.

open source programming projects, where users are able to offer or request features, but developers have the final say on.

Blockchain Governance Strategies

3. **Open Governance –**

The **team** making **governance decisions** for the blockchain is chosen by the **users** of the blockchain.

The team that makes the final **technical decisions** for a system is selected by the **system's users**.

4. **On-Chain Governance –**

The rules for how the blockchain operates are stored **on-chain in smart contracts** with built-in capability and procedures for modifications.

These **regulations** typically are implemented as smart contracts on the blockchain with **built-in methods** for users to modify the rules based on their needs and the needs of the blockchain.

To modify rules **hard fork** is used.

Who Really Governs the Blockchain?

Various blockchain exist some of them are:-

Governance in Ethereum:-

- ✓ uses the **"Benevolent Dictator for Life"** mode of blockchain governance.
- ✓ **Vitalik Buterin** is the final authority on decisions regarding the Ethereum roadmap.

Governance in Hyperledger Frameworks:-

- ✓ use an **Open Governance**.
- ✓ **TSC** is the final authority for technical decisions. TSC is selected from Hyperledger environment's active contributors and maintainers.

Governance in Corda:-

- ✓ **Open Governance model** to make technical decisions regarding the future of the blockchain.

The Future of Regulation

- Blockchain is, at its core, an asset management platform. In today's society, governments often are the ones who manage and/or regulate a tremendous number of assets in a country. In the future, blockchain technology will make this management/regulation immutable and instantaneous. We will move from a paper-based, delayed-reporting world to a more dynamic, real-time world In the next five, ten, twenty years, we will witness increasingly more cooperation and interoperation between countries and economies.
- Some of the major applications includes :-

1. ***Tax management:-*** *With smart contracts, governments can collect taxes in real-time — this a more dynamic way for governments to collect. Additionally, blockchain technology would provide radical transparency for taxes — we would be able to see precisely where governments are using citizen's taxes.*
2. ***Global Digital identity :-*** Blockchain provides distributed ledger. All the identity proofs can be stored on the ledger. Which means no need to carry identity cards everywhere. True identity can be proved anytime anywhere.
3. **Defence System :-** Blockchain can effectively utilize the technology to enhance secure data exchange and provide reliable access to information, facilitate device tracking, streamline the procurement process and ensure supply chain security. This can lead to greater efficiency as well as significant cost savings.
4. **More Competitive Government :-** People are extremely mobile with this new technology. That means governments are being very competitive with each other. They understand if they create the right incentives, people will move there to do it.

Regulation Of Cryptocurrency Around The World

Whereas the global community is seeking consensus on cryptocurrency regulation, the national governments are making their own maneuvers. We'll see how this new technological advancement is perceived worldwide.

- On March 20, 2018, G20 countries like Argentina, Australia, Turkey, South Africa, and the United Kingdom proclaimed that they decided not to regulate cryptocurrencies. The chairman mentioned that "cryptoassets do not pose risks to global financial stability at this time," citing the relatively small capitalization of the market.
- On the other hand, Russia is drafting a bill that will allow the registration of cryptocurrency exchanges only on official government websites.
- Authorities in Indonesia have ruled out the usage of cryptocurrencies. Indonesia Central Bank insisted that Indonesian rupiah is the only currency permitted for transactions inside the country, referring to the country's currency act.
- Meanwhile, Saudi Arabia is working on establishing legal norms for blockchain technology implementation without prohibiting cryptocurrencies. The country cooperated with the UAE on a pilot project to explore cross-border digital currency payments on blockchain.
- Some Italian banks are considering to issue their own cryptocurrency, while France warns its citizens of risks associated with the new class of digital assets and prepares a law on ICOs and cryptocurrencies.
- Switzerland has been among the pioneers in the blockchain field. One of its cities — Zug — hosts several blockchain startups and offers a flexible taxation and solid legislative protection to the companies of the blockchain breed.
- the United States, the UK, Singapore and Japan do not intend to scare away the blockchain industry professionals, admitting the need for proper blockchain regulation.

FUTURE OF BLOCKCHAIN TECHNOLOGY IN INDIA

- India ranks 6th in the world for blockchain **patent approvals**, clearly indicating that there is strong interest here. The Indian government does not have any defined regulation on distributed ledger technology or any regulation relating to blockchain technology. This lack of regulation means that there is a lack of compliance, making adoption slow.
- According to the 2019 Nasscom Blockchain Report, startups are involved in at least 50% of blockchain projects in India, and many of these startups are now signing on big enterprise clients for large-scale implementation.
- In April 2018, RBI, **prohibiting banks** from receiving or transferring any money related to **cryptocurrencies**.
- In July 2019, a government-appointed committee proposed a blanket ban on cryptocurrencies and their recommendations are in the form of a draft law which, if passed, could mean the end of cryptocurrencies in India.

CONCLUSION

- The use of and the reliance on digital networks, DLT and blockchain technology increasingly shapes our societies and power relationships
- blockchain governance in order to be effective, it needs to include both incentives and methods for members to coordinate.
- If future of governance is indeed one of changing roles and power alliances we should expect to see increasingly fluid dynamics inside and around digital networks. Such fluidity would express itself in mere users of the network banding together and increasingly defining the network.
- This conception of a third form of decentralized, yet networked, governance gives concrete indications of the utility of social network analysis for policy making and the design of governance tools in the digital domain.

THANK YOU…..