## Blockchain Governance, Lessons learned from Internet Governance

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## The Blockchain

To understand what policy questions and challenges arise from the emerging blockchain technology and how these challenges are related to internet governance, we first have to introduce the blockchain. Since Bitcoin is the first and at the time of writing the most widely used and valuable cryptocurrency running on a blockchain it was chosen as a reference system to clarify the concepts on a concrete example. Blockchains are used to record the transactions of bitcoins and other digital currencies, called cryptocurrencies between parties. Every exchange is recorded in an append only immutable public ledger. The current and all previous states of the public ledger are saved in the blockchain, new transactions get added as a new block to the blockchain which updates the public ledger. Transactions need to be verified to prevent double spending and to assure that the sender does own the bitcoins he wants to send, this verification is done by miners which have to solve a cryptographical puzzle to mine the block and therefore verify the transactions, hence the term cryptocurrency. The miner has to allocate energy and processor workload and receives bitcoins in return, this mining model is called proof of work. Other cryptocurrencies use the less energy intensive proof of stake model.

## Lessons Learned from Internet Governance

A necessary condition to learn from internet governance is a basic similarity between blockchain and internet. The most important and striking similarity is the global access and usage which makes it hard to unilaterally regulate, since there will always be services in other jurisdictions bypassing access restriction or other regulations. A multinational approach of different stakeholders as it is used for internet governance might be suitable for blockchain regulation as well.

Internet Governance is defined by the World summit on the information society as: "the development and application by Governments, the private sector and civil society, in their respective roles, of shared principles, norms, rules, decision-making procedures, and programmes that shape the evolution and use of the Internet"

This multi stakeholder approach, however, is subject to criticism since the decision-making rules and constraints are of fundamental importance for the efficiency of the multi stakeholder governance processes. The one in charge of rulemaking can shape the governance. Additionally, the accountability in multi stakeholder governance models is not always transparent. Furthermore, one fundamental difference of blockchain and internet is the "value" that is transmitted. While a blockchain is in many cases used to transmit cryptocurrencies, the internet serves as a mean for communication and delivering information. It remains to determine how cryptocurrencies undermine current know your customer and anti-money laundering laws and how these evil use cases of a neutral technology can be effectively restricted on a global scale.

## A brief conclusion

Prof. Savage gave a general recommendation that should be considered by policymakers and scientists to make effective policies and shape technologies to get to a mutual gain situation. "If you make a policy concerning a technology you should have scientists, developers and inventors at the table. If you make technology influencing policy, you should have policymakers at the table."