

Blockchain Governance Reading List

*Compiled by Kevin Werbach (Wharton School, University of Pennsylvania)**

Please send comments/additions to werbach@upenn.edu

Contents

- 1) [Blockchain Governance Generally](#)
- 2) [Blockchain as a Governance Innovation \(Blockchain for Governance\)](#)
- 3) [Perspectives on Blockchain from Other Governance Frameworks](#)
- 4) [Algorithmic Mechanisms for Decision-Making](#)
- 5) [Permissioned DLT Governance](#)
- 6) [Governance Approaches of Specific Blockchain Projects](#)
- 7) [Case Studies of Governance Controversies](#)
- 8) [Non-Blockchain Governance Resources](#)

Blockchain Governance Generally

Overviews

Can Permissionless Blockchains Avoid Governance and the Law? (Journal of Emerging Technologies, 2020)

Eric Alston, Wilson Law, Ilia Murtazashvili, and Martin Weiss

<https://ssrn.com/abstract=3676761>

Defines public blockchains as a new form of decentralized private governance. Provides a granular analysis of blockchain governance on four distinct levels.

The Key Ingredients to a Better Blockchain, Part v: Governance (Etherean.org, January 6, 2020)
Lane Rettig

<https://www.etherean.org/blockchain/governance/2020/01/06/key-ingredients-better-blockchain-part-v-governance.html>

Seeks to identify the attributes of good governance for blockchains. Offers a series of questions that help to define the governance choices a project can and should make. The author was influenced by the [Wharton Cryptogovernance Workshop](#).

Will We Realize Blockchain's Promise of Decentralization? (Harvard Business Review, September 4, 2019)

Hanna Halaburda and Christoph Mueller-Bloch

<https://hbr.org/2019/09/will-we-realize-blockchains-promise-of-decentralization>

Describes the dimensions of Bitcoin governance, as a model for the important aspects of decentralized blockchain governance.

The Very Brief History of Decentralized Blockchain Governance (Vanderbilt Journal of Entertainment and Technology Law, 2019)

Michael Abramowicz

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3366613

A history of focal mechanisms (also known as Schelling points) for decentralized governance, which do not require formalized voting, and a discussion of how they could be implemented effectively in blockchain-based systems.

Constitutions and Blockchains: Competitive Governance of Fundamental Rule Sets (Journal of Law, Technology, and Internet, 2019)

Eric Alston

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3358434

Identifies the competitive gains and tradeoffs of blockchains as a new form of private governance.

Blockchain Communities and Their Emergent Governance (Medium, November 19, 2018)

Matthew Prewitt and Steven McKie

<https://medium.com/amentum/blockchain-communities-and-their-emergent-governance-cfe5627dcf52>

Clarifies scope of blockchain governance and discusses the significance of legitimacy and narratives in governance. Analyzes how ZCash could address both these requirements to form long-lasting communities.

Blockchain Governance (Ox Blog, September 27, 2018)

Peter Zeitz

<https://blog.Oxproject.com/blockchain-governance-7ff89e6ec383>

Identifies a core challenge of governance as determining an optimal division of rights to control project decisions across various stakeholders. Blockchain platforms can be governed as public infrastructure by transferring ownership rights to users.

Governing Blockchains and the Blockchain Government (Blockchain Research Network, September 11, 2018)

Quinn Dupont

<https://www.blockchainresearchnetwork.org/governing-blockchains-and-the-blockchain-government/>

A brief summary of what blockchain governance is, why it's important, and a list of principles for how to do it well.

Blockchain Governance 101 (Good Audience, September 21, 2018)

Vlad Zamfir

<https://blog.goodaudience.com/blockchain-governance-101-eea5201d7992>

Overview of the key challenges in blockchain governance by an influential Ethereum core developer. Emphasizes that “blockchain governance outcomes will be driven by the politics of participants in the public blockchain space.”

The Three Branches of Blockchain Governance (Medium, August 23, 2018)

Nate Maddrey

<https://medium.com/digitalassetresearch/the-three-branches-of-blockchain-governance-75a29bf98880>

Maps the traditional political divisions of legislative, executive, and judicial power, constrained by checks-and-balances, to the blockchain context.

Governance of Blockchain Systems (COALA/BRI, June 2018)

Primavera De Filippi and Greg McMullen

<https://coala.global/wp-content/uploads/2019/02/BRI-COALA-Governance-of-Blockchains.pdf>

A ‘textbook-styled’ overview, covering topics such as blockchain systems (decentralization, cryptography, etc.), the blockchain stack (blockchain layer, application layer, etc.), and forms of blockchain governance (on-chain, off-chain).

An Overview of Governance in Blockchains (Slide deck, 2018)

Odysseas Sclavounis and Nic Carter

<https://www.docdroid.net/ddz6VzP/overview-governance-blockchains-nc-zcon.pdf>

Discusses common misconceptions of blockchain governance, clarifies the definition, and gives examples around on-chain and off-chain governance.

The Governed Blockchain (iang.org, 2018)

Ian Grigg

http://iang.org/papers/the_governed_blockchain.html

A long idiosyncratic piece proposing a new category of “governed blockchain” distinct from public and permissioned systems. Written by a longtime financial cryptography expert and currency advisor to the EOS project.

Governance 101 (BeyondBlock Taipei, November 2017, 1h:5m video)

Vlad Zamfir

<https://www.youtube.com/watch?v=9RtSod8EXn4&feature=youtu.be&t=2h33m39s>

A deep-dive into governance processes of Ethereum, covering details about roles of key participants and stakeholders. Also makes an argument about how off-chain governance is less risky than on-chain mechanisms.

Notes on Blockchain Governance (Vitalik Buterin's Website, December 17, 2017)

Vitalik Buterin

<http://vitalik.ca/general/2017/12/17/voting.html>

Offers a critical analysis of on-chain governance blockchains and proposes a new solution called ‘multifactorial consensus’ that contains aspects of both off-chain and on-chain governance.

Thoughts on governance and network effects (Aragon, December 12, 2017)

Luke Duncan

<https://blog.aragon.one/thoughts-on-governance-and-network-effects-f40fda3e3f98>

Discusses governance and its impact on network effects, why both relate to how value flows and is captured within tokenized blockchain networks, and why the commoditization of hardware, software and data are commoditized in blockchain systems makes governance particularly important.

Blockchain Governance: Programming Our Future (Medium, November 27, 2017)

Fred Ehrsam

<https://medium.com/@FEhrsam/blockchain-governance-programming-our-future-c3bfe30f2d74>

Explains the significance and primary mechanisms of blockchain governance, critiques current systems, and suggests approaches that could improve on them.

Governance Deep Dive (Blockchain at Berkeley, November 2017)

Alexandra Tran and Steven Elleman

<https://docs.google.com/presentation/d/1OcLFnYaR0r58DyPVYwMglq3nJOFVkOO2hxJf1hxGnJO/edit?usp=sharing>

Slide deck on the definition and meaning of governance, plus detailed accounts of different aspects of blockchain governance.

Who Are the Administrators of Blockchains? (OfNumbers, October 19, 2017)

Tim Swanson

<https://www.ofnumbers.com/2017/10/19/who-are-the-administrators-of-blockchains/>

Highlights the risks associated with having public figures and associations provide oversight and resolve disputes, thereby calling for better governance mechanisms.

Crypto-Governance and the Dangers of Faction (Medium, October 17, 2017)

Buck Perley

<https://medium.com/@BuckPerley/crypto-governance-f1318affbbe0>

Draws an analogy between blockchain and the American Constitution, and uses it to identify principles for blockchain governance.

Realizing the Potential of Blockchain (World Economic Forum, June 2017)

Don Tapscott and Alex Tapscott

http://www3.weforum.org/docs/WEF_Realizing_Potential_Blockchain.pdf

A comprehensive paper covering history of popular blockchain networks, challenges with blockchain governance, and a governance model based on Global Solution Networks.

Why Governance Matters (Medium, August 28, 2016)

Arthur Breitman

<https://medium.com/tezos/why-governance-matters-9c6458044037>

A short note by the co-founder of Tezos highlighting shortfalls in existing blockchain systems and how Tezos' on-chain governance framework will plug them.

Distributed Governance (William & Mary Law Review Online, 2016)

Carla Reyes, Nizan Geslevich Packin, and Benjamin Edwards

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2884978

Examines the key considerations for stakeholders in blockchain governance and argues that distributed entities must be carefully structured to function effectively as they may have unintended social, political and ecological consequences.

Analytical Frameworks

The Blockchain Governance Quadrant (Medium, May 31, 2019)

Noah Pierau

<https://medium.com/@NoahPierau/the-blockchain-governance-quadrant-2a878a9cacb9>

Introduces a four quadrant framework to analyze blockchain governance models using two parameters: on-chain vs off-chain governance and internal vs external governance.

The Blockchain Paradox (Coindesk, May 15, 2019)

Pindar Wong

<https://www.coindesk.com/the-blockchain-paradox>

Suggests new terms—‘polycentric’ instead of ‘decentralized’; ‘stewardship’ instead of ‘governance’—and calls for a blockchain governance framework that is neither fully decentralized nor centralized.

A Framework for Blockchain Governance Design: The Prysm Group Wheel (Medium, April 23, 2019)

Cathy Barrera

<https://medium.com/prysmeconomics/a-framework-for-blockchain-governance-design-the-prysm-group-wheel-703279c1b0dd>

Outlines a framework for blockchain governance design with seven elements intertwined in a cycle. Points out that it may take several cycles to arrive at an optimal governance structure.

A Relative Value Model for Governance Tokens (Github, April 2019)

Jake Brukman

<https://github.com/coinfund/governance-model>

A formal model for connecting token ownership distribution and voting decision power.

Cryptonetwork Governance as Capital (Placeholder VC, February 19, 2019)

Joel Monegro

<https://www.placeholder.vc/blog/2019/2/19/cryptonetwork-governance-as-capital>

Introduces the concept of ‘political capital’ in governance and discusses how different blockchains treat financial and political capital with utility and governance tokens.

Distributed Ledger Technology Systems: A Conceptual Framework (Cambridge Centre for Alternative Finance, August 2018), Section 5.1

Michael Rauchs, et al

https://www.jbs.cam.ac.uk/fileadmin/user_upload/research/centres/alternative-finance/downloads/2018-10-26-conceptualising-dlt-systems.pdf

Lays down a detailed framework to analyze and compare DLT models and discusses popular blockchain systems through the lens of that framework

A First Step in the Co-Evolution of Blockchain and Ontologies: Towards Engineering an Ontology of Governance at the Blockchain Protocol Level (Arxiv, 2018)

Henry Kim, Marek Lastowski, and Ning Nan

<https://arxiv.org/pdf/1801.02027.pdf>

Recommends blockchain and ontology communities to work together, and outlines a conceptual design for a governance ontology at the blockchain protocol level.

On-Chain vs. Off-Chain Governance Mechanisms

Blockchain Voter Apathy (Medium, March 29, 2019)

Roy Learner

<https://medium.com/wave-financial/blockchain-voter-apaty-69a1570e2af3>

Analyzes variance in voting turnouts in popular on-chain and off-chain blockchains, discusses pitfalls in both models and potential solutions to them

Now the Code Runs Itself: On-Chain and Off-Chain Governance of Blockchain Technologies

(Topoi, December 17, 2018)

Wessel Reijers et al

<https://hal.archives-ouvertes.fr/hal-02046663/document>

Draws similarities between on-chain governance and Hans Kelsen's theory of legal positivism, and discusses how on-chain governance might be influenced by off-chain activity in emergency circumstances

Not All Governance Is Voting (Tony Sheng blog, August 13, 2018)

Tony Sheng

<https://www.tonysheng.com/voting-governance>

Argues that voting mechanisms prevalent in current on-chain blockchains underestimate the complexities involved in governance and suggests liquid democracy as a model in which users may delegate their votes.

Blockchains Are Not Startups (Medium, June 1, 2018)

Jacob Arluck

<https://medium.com/tezos/blockchains-are-not-startups-16449e210a61>

Argues in favor of on-chain governance by discussing issues with popular public blockchain networks. Explains how Tezos aims to solve those issues.

Against On-Chain Governance (Medium, December 1, 2017)

Vlad Zamfir

https://medium.com/@Vlad_Zamfir/against-on-chain-governance-a4ceacd040ca

Points out pitfalls in an on-chain governance network. Argues that token holders and other stakeholders may not be in alignment of interests, and decision-making power can become consolidated into few hands.

Blockchain as a Governance Innovation (Blockchain for Governance)

Programmable Trust (CIGI, 2019)

Michael Mason and Matthew Spoke

<https://www.cigionline.org/articles/programmable-trust>

Tribal Governance: The Business of Blockchain Authentication (HICSS 2018)

Gianluca Miscione et al

<https://scholarspace.manoa.hawaii.edu/bitstream/10125/50455/1/paper0568.pdf>

Corporate Governance and Blockchains (Review of Finance, 2017)

David Yermack

<https://watermark.silverchair.com/rfw074.pdf>

Disrupting Governance with Blockchains and Smart Contracts (SC: Briefings in Entrepreneurial Finance, 2017)

Shermin Voshmgir

<https://onlinelibrary.wiley.com/doi/epdf/10.1002/jsc.2150>

Making Sense of Blockchain Governance Applications (Coindesk, November 20, 2016)

Josh Stark

<https://www.coindesk.com/making-sense-blockchain-governance-applications>

Disrupting Governance: The New Institutional Economics of Distributed Ledger Technology (SSRN, July 19, 2016)

Sinclair Davidson, Primavera De Filippa, and Jason Potts

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2811995

Blockchain Technology and Decentralized Governance: Is the State Still Necessary? (SSRN, December 1, 2015)

Marcella Atzori

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2709713

Perspectives on Blockchain from Other Governance Frameworks

Corporate Governance

Corporate Governance for Complex Cryptocurrencies? A Framework for Stability and Decision Making in Blockchain-Based Organizations (In Regulating Blockchain: Techno-Social and Legal Challenges, 2019)

Philipp Hacker

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2998830

(Un)Corporate Crypto-Governance (Fordham Law Review, 2019)

Carla Reyes

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3355026

Economics

Blockchain: The Birth of Decentralized Governance (April 2018)

Benito Arrunada and Luis Garicano

<https://econ-papers.upf.edu/papers/1608.pdf>

Governance of Blockchain and Distributed Ledger Technology Projects (February 2019)

Bronwyn Howell, Petrus Potgieter, and Bert Sadowski

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3365519

IT Governance

Governance in the Blockchain Economy: A Framework and Research Agenda (Journal of the Association for Information Systems, October 2018)

Roman Beck and Chrisoph Müller-Bloch

https://www.researchgate.net/publication/323689461_Governance_in_the_Blockchain_Economy_A_Framework_and_Research_Agenda

Political Philosophy

No Such Thing as Decentralised Governance (Outlier Ventures, February 2019)

Lawrence Lundy

<https://outlierventures.io/research/the-crypto-trias-politica/>

Social Contract Theory

Governance in Blockchain Technologies & Social Contract Theories (Ledger, 2016)

Wessel Reijers, Fiachra O'Brolchain, and Paul Haynes

<http://ledger.pitt.edu/ojs/index.php/ledger/article/view/62>

Commons Governance

When Ostrom Meets Blockchain: Exploring the Potentials of Blockchain for Commons Governance (SSRN, 2018)

David Rozas et al

https://www.researchgate.net/profile/Antonio_Tenorio-Fornes/publication/329139326_When_Ostrom_Meets_Blockchain_Exploring_the_Potentials_of_Blockchain_for_Commons_Governance/links/5c01255845851523d15459f6/When-Ostrom-Meets-Blockchain-Exploring-the-Potentials-of-Blockchain-for-Commons-Governance.pdf

Block-by-Block: Leveraging the Power of Blockchain Technology to Build Trust and Promote Cyber Peace (Yale Journal of Law and Technology, 2017)

Scott Shackleford and Steve Myers

https://dlc.dlib.indiana.edu/dlc/bitstream/handle/10535/10307/CY17-4_Shackelford_Block-by-block.pdf

Complexity Theory

Complex Adaptive Blockchain Governance (International Conference on Axiomatic Design 2018)

John Thomas and Pam Mantri

https://www.matec-conferences.org/articles/mateconf/pdf/2018/82/mateconf_icad2018_01010.pdf

Algorithmic Mechanisms for Decision-Making

DAOs

Decentralized Thriving: The Here and Now of DAOs (Collection of essays, 2019)

DAOSTack

https://daostack.io/ebook/decentralized_thriving.pdf

DAOs, Democracy and Governance (Cryonics Magazine, July/August 2016)

Ralph Merkle

<http://merkle.com/papers/DAOdemocracyDraft.pdf>

Quadratic Voting

Liberation Through Radical Decentralization (Medium, May 21, 2018)

Vitalik Buterin and Glen Weyl

<https://medium.com/@VitalikButerin/liberation-through-radical-decentralization-22fc4bedc2ac>

Bonding Curves

Tokens 2.0: Curved Token Bonding in Curation Markets (Medium, November 21, 2017)

Simon de la Rouviere

<https://medium.com/@simondlr/tokens-2-0-curved-token-bonding-in-curation-markets-1764a2e0bee5>

Holographic Consensus

Holographic Consensus—Part 1 (Medium, November 12, 2018)

Matan Field

<https://medium.com/daostack/holographic-consensus-part-1-116a73ba1e1c>

Conviction Voting

Conviction Voting (Medium, May 29, 2019)

Kay

<https://medium.com/giveth/conviction-voting-34019bd17b10>

Futarchy

An Introduction to Futarchy (Ethereum Blog, August 21, 2014)

Vitalik Buterin

<https://blog.ethereum.org/2014/08/21/introduction-futarchy/>

Dispute Resolution

The Governance of Blockchain Dispute Resolution (February 15, 2019)

Darcy Allen, Aaron Lane, and Marta Poblet

https://www.researchgate.net/profile/Marta_Poblet2/publication/331155400_The_Governance_of_Blockchain_Dispute_Resolution/links/5c6892a8299bf1e3a5ad3c2f/The-Governance-of-Blockchain-Dispute-Resolution.pdf

Permissioned DLT Governance

Consortium Blockchain Governance: A Key Issue For Enterprise Blockchain Projects (The Brooklyn Project, May 9, 2019)

Mark Radcliffe

<https://thebkp.com/s/consortium-blockchain-governance-a-key-issue-for-enterprise-blockchain-projects-b2946f7e9e58>

Blockchain Governance and The Role of Trust Service Providers: The TrustedChain® Network (Journal of the British Blockchain Association, April 18, 2018)

Marcella Atzori

<https://jbba.scholasticahq.com/article/3553-blockchain-governance-and-the-role-of-trust-service-providers-the-trustedchain-network>

Governance Approaches of Specific Blockchain Projects

Cross-Project Comparisons

Blockchain Governance: Takeaways From Nine Projects (Medium, April 29, 2018)

Leopold Bosankik

https://medium.com/@leo_pold_b/blockchain-governance-takeaways-from-nine-projects-8a80ad214d15

The Internal and External Governance of Blockchain-Based Organizations: Evidence from Cryptocurrencies (in Bitcoin and Beyond: Blockchains and Global Governance, 2018)

Yin-Ying Hsieh, Jean-Philippe Vergne, and Sha Wang

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2966973

A Cross-Sectional Overview of Cryptoasset Governance and Implications for Investors (University of Edinburgh Masters Dissertation, 2017)

Nic Carter

<https://coinmetrics.io/papers/dissertation.pdf>

Bitcoin

Bitcoin Governance (Medium, July 8, 2018)

Pierre Rochard

https://medium.com/@pierre_rochard/bitcoin-governance-37e86299470f

Ethereum

State of Ethereum Governance (YouTube, 1h:53m video, May 9, 2019)

Lane Rettig et al

https://www.youtube.com/watch?time_continue=1&v=3fFOEx7qalQ

Decred

Decred Governance: An Iterative Approach (Medium, May 28, 2019)

Max Bronstein

<https://medium.com/@maxbronstein/decred-governance-an-iterative-approach-2a89b9751f5e>

On the Launch of Decred's Politeia (Medium, October 16, 2018)

Richard Red

<https://medium.com/decred/on-the-launch-of-decreds-politeia-b305d06d8bda>

Tezos

Reflecting on Athens, the First Self-Amendment of Tezos (Tocqueville Group, May 29, 2019)

Jacob Arluck

<https://medium.com/tocqueville-group/reflecting-on-athens-the-first-self-amendment-of-tezos-4791ab3b1de1>

The Myth of the Irrational Token Holder (Medium, February 20, 2017)

Kathleen Breitman

<https://medium.com/@kathleenbreit/the-myth-of-the-irrational-token-holder-c12438709afd>

Tezos White Paper (September 2, 2014)

L.M. Goodman

https://tezos.com/static/white_paper-2dc8c02267a8fb86bd67a108199441bf.pdf

EOS

EOS White Paper (April 28, 2018)

Greg Lee

<https://github.com/EOSIO/Documentation/blob/master/TechnicalWhitePaper.md>

Technical white paper for EOS.IO software

A Deep Dive Into EOS Governance (July 28, 2018)

Blockgenic

<https://medium.com/coinmonks/a-deep-dive-into-eos-governance-49e892eeb4a2>

Describes key features of EOS's constitution for on-chain governance, discusses shortfalls during its initial launch and how the constitution can be improved going forward

The Proposed EOS Mainnet Constitution (2018)

EOS New York

<https://steemit.com/eos/@eosnewyork/the-proposed-eos-mainnet-constitution-what-should-we-keep-change-add-or-throw-out>

Interprets meaning and function of each article in the EOS constitution

Aragon

Aragon - Blockchain Solution To Corporate Governance (February 19, 2019)

State of the Apps

<https://www.stateofthedapps.com/spotlights/aragon-blockchain-solution-to-corporate-governance>

Explains how Aragon is designed to operate DAOs through smart contracts for voting, managing funds, accounting and decision-making and its advantages

Cryptocurrency Review: Analysis on Aragon (August 23, 2019)

Aziz Zainuddin

<https://masterthecrypto.com/analysis-on-aragon/>

Describes key features of Aragon, depicting flow of information and control amongst several parts of the Aragon ecosystem such as ANT holders, AragonDev, Court and various DAOs.

Cosmos

How does Cosmos work? How does it compare to Bitcoin and Ethereum? (June, 2019)

Preethi Kasireddy

<https://www.preethikasireddy.com/posts/how-does-cosmos-work-part2>

Dives deep into Cosmos' hub-and-zone based system architecture, which according to the author is its biggest value proposition

How Cosmos Governance Works, and How You Can Become a Validator (May 16, 2019)

Crypto Li

<https://www.longhash.com/news/how-cosmos-governance-works-and-how-you-can-become-a-validator>

Explains how Cosmos is governed through a Proof-of-stake model in which ATOM holders decide validators and validators run the network

Polkadot

Polkadot: The Foundation of a New Internet (February 14, 2019)

Jack Platts

<https://medium.com/polkadot-network/polkadot-the-foundation-of-a-new-internet-e8800ec81c7>

An article by Polkadot describing how the blockchain works and use cases that it plans to solve

Polkadot's Plan for Governing a Blockchain of Blockchains (March 22, 2018)

Rachel Rose O'Leary

<https://www.coindesk.com/polkadots-radical-plan-governing-blockchain-blockchains>

Discusses Polkadot's Proof-of-stake based governance model, and how it allows token holders to govern the blockchain and vote on a piece of code directly, bypassing any inputs from developers or nodes

DAOStack

An Explanation of DAOStack in Fairly Simple Terms (April 10, 2018)

Josh Zemel

<https://medium.com/daostack/an-explanation-of-daostack-in-fairly-simple-terms-d0e034739c5a>

Covers general features of DAOStack and its governance model - how it separates monetary wealth and voting rights as 'tokens' and 'reputation' separately, and how tokens are used to bring proposals to attention while reputation is used to vote for the proposal.

DAOstack—Synopsis For The Average Consumer (Jan 21, 2018)

Cody James

<https://hackernoon.com/daostack-synopsis-for-the-average-consumer-7e51bb27c481>

Explains how DAOstack's Arc framework provides DAOs option to choose from a library of government modules through a plug-and-play method, thereby providing a flexible governance model for DAOs

Dash**Understanding Dash Governance** (May 3, 2018)

Leon White

<https://github.com/dashpay/docs/blob/O.14.0/governance/understanding.rst>

Explains in detail Dash's on-chain governance mechanism covering key components such as masternodes, contractors, rewards and proposals.

<https://www.commonlounge.com/discussion/215b04a72ede430298d196a3d706192d>

Summarizes Dash's on-chain governance model by explaining processes such as spending Dash tokens to float proposals and minimum votes required to get proposal approved

Dfinity**The DFINITY “Blockchain Nervous System”** (Dfinity, January 4, 2017)

Dominic Williams

<https://medium.com/dfinity/the-dfinity-blockchain-nervous-system-a5dd1783288e>Ox**Introduction to Blockchain Governance** (Medium, October 17, 2018)

P.J. Leimbruber

<https://blog.districtOx.io/introduction-to-blockchain-governance-bc6eea42ada3>Melonport**Introduction to the Melon Governance System** (Medium, November 1, 2018)

Jenna Zenk

<https://medium.com/melonprotocol/introduction-to-the-melon-governance-system-f6ff73c70eb0>

Case Studies of Governance Controversies

Bitcoin Scaling Debate

Bitcoin Has a Governance Problem, No Matter Who Created It (Reuters, May 6, 2016)

Jemima Kelly

<https://www.reuters.com/article/us-bitcoin-governance-idUSKCN0XX1WU>

The Invisible Politics of Bitcoin: Governance Crisis of a Decentralised Infrastructure (Internet Policy Review, September 30, 2016)

Primavera De Filippi and Benjamin Loveluck

<https://policyreview.info/articles/analysis/invisible-politics-bitcoin-governance-crisis-decentralised-infrastructure>

The DAO

Experiments in Algorithmic Governance: An ethnography of “The DAO,” a Failed Decentralized Autonomous Organization (in Bitcoin and Beyond: The Challenges and Opportunities of Blockchains for Global Governance, 2017)

Quinn Dupont

http://iqdupont.com/wp-content/uploads/2018/06/DuPont-Experiments_in_Algorithmic_Governance-2017.pdf

The Blockchain Paradox: Why Distributed Ledger Technologies May Do Little to Transform the Economy (Oxford Internet Institute, November 21, 2016)

Vili Lehdonvirta

<https://www.oii.ox.ac.uk/blog/the-blockchain-paradox-why-distributed-ledger-technologies-may-do-little-to-transform-the-economy/>

Decentralized Autonomous Organization to Automat Governance (2016) [The DAO Whitepaper]

Christoph Jentzsch

<https://download.slock.it/public/DAO/WhitePaper.pdf>

Maersk Tradelens

How Maersk's Bad Business Model Is Breaking Its Blockchain (Forbes, October 30, 2018)

Andrea Tinianow

<https://www.forbes.com/sites/andreatinianow/2018/10/30/how-maersks-bad-business-model-is-breaking-its-blockchain/#1696845c4f4d>

Moloch DAO

The Moloch DAO: Collapsing the Firm (Medium, January 16, 2019)

Simon de la Rouviere

<https://medium.com/@simondlr/the-moloch-dao-collapsing-the-firm-2a800b3aa2e7>

Non-Blockchain Governance Resources

Cross-Disciplinary

Key Concepts in Governance (2008)

Mark Bevir

<https://uk.sagepub.com/en-gb/eur/key-concepts-in-governance/book230905>

New Institutional Economics

The Mechanisms of Governance (1996)

Oliver Williamson

<https://www.amazon.com/Mechanisms-Governance-Oliver-Williamson/dp/0195132602>

Institutions (Journal of Economic Perspectives, Winter 1991)

Douglass North

<https://www.aeaweb.org/articles?id=10.1257/jep.5.1.97>

The Logic of Collective Action (1965)

Mancur Olson

https://en.wikipedia.org/wiki/The_Logic_of_Collective_Action

Public Choice Theory

The Calculus of Consent (1962)

James Buchanan and Gordon Tulloch

https://en.wikipedia.org/wiki/The_Calculus_of_Consent

Social Choice and Individual Values (1951; 2nd ed. 1963)

Kenneth Arrow

<https://cowles.yale.edu/sites/default/files/files/pub/mon/m12-all.pdf>

Commons Governance

Order Without Law (1991)

Robert Ellickson

<https://www.amazon.com/Order-without-Law-Neighbors-Disputes-dp-067464168X/dp/067464168X>

Governing the Commons (1990)

Elinor Ostrom

https://wtf.tw/ref/ostrom_1990.pdf

Cybernetics**Out of Control**

Kevin Kelly

A history of the field of cybernetics, and its application in the internet era to self-organizing networked digital systems. Offers many insights on self-governing systems.

Game Theory**The Strategy of Conflict** (1981)

Thomas Schelling

<https://www.amazon.com/Strategy-Conflict-New-Preface-Author/dp/O674840313>**Micromotives and Macrobehavior** (1978; revised 2006)

Thomas Schelling

<https://www.amazon.com/dp/BOO2MB968C/>Legal Theory**Principles of Social Order** (1981)

Lon Fuller

<https://www.amazon.com/dp/O822304481>Political Theory**Ulysses Unbound** (2000)

Jon Elster

<https://www.amazon.com/dp/O521665612/>**Exit, Voice, and Loyalty** (1970)

Albert Hirschman

<https://www.amazon.com/Exit-Voice-Loyalty-Responses-Organizations/dp/O674276604>Internet Governance**The Age of Digital Interdependence** (June 2019)

UN Secretary-General's High-level Panel on Digital Cooperation

<https://digitalcooperation.org/wp-content/uploads/2019/06/DigitalCooperation-report-for-web.pdf>**The Emerging Field of Internet Governance** (SSRN, September 17, 2010)

Laura DeNardis

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1678343

The Emerging Internet Governance Mosaic: Connecting the Pieces (Oxford Internet Institute, November 2005)

William Dutton and Malcolm Peltu,

<https://www.oii.ox.ac.uk/archive/downloads/publications/FD5.pdf>

Environmental Governance

Governance: Exploring Four Approaches and Their Relevance to Research (in Research for Sustainable Development, 2011)

Marc Hufty

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2019013

Investigating Policy Processes: The Governance Analytical Framework (in Research for Sustainable Development, 2011)

Marc Hufty

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2019005

Decentralized Organizations

Past, Present, Future: From Co-ops to Cryptonetworks (JesseWalden.com, March 22, 2019)

Jesse Walden

<https://jessewalden.com/past-present-future-from-co-ops-to-cryptonetworks/>

One From Many: Visa and the Rise of Chaordic Organization (2nd ed. 2005)

Dee Hock

<https://www.amazon.com/One-Many-VISA-Chaordic-Organization/dp/1576753328>

The Tyranny of Structurelessness (1973)

Jo Freeman

<https://www.jofreeman.com/joreen/tyranny.htm>

Network Governance (in Management literature)

A General Theory of Network Governance (Academy of Management Review, 1997)

Candace Jones William Hesterly, and Stephen Borgatti

<https://myweb.rollins.edu/tlairson/pek/netgoverntheory.pdf>

IT Governance

IT Governance and Its Mechanisms (Information Systems Control Journal, 2004)

Steven De Haes and Wim Van Grembergen

http://www.qualified-audit-partners.be/user_files/ITforBoards/GVIT_ISACA-De_Haes_Steven_-_Van_Grembergen_Wim_IT_Governance_and_Its_Mechanisms_2004.pdf

Don't Just Lead, Govern: How Top-Performing Firms Govern IT (MIS Quarterly, 2004)

Peter Weill

<https://pdfs.semanticscholar.org/6a43/58e40b8f1f9bcb7f20d272a07efdecbb8ec2.pdf>

Standards

The Art of Standards Wars (California Management Review, 1999)

Hal Varian and Carl Shapiro

<https://faculty.haas.berkeley.edu/shapiro/wars.pdf>

Open Source

The Emergence of Governance in an Open Source Community (Academy of Management Journal, 2007)

Siobhan O'Mahony and Fabrizio Ferrara

<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.470.8028&rep=rep1&type=pdf>

The Cathedral and the Bazaar (First Monday, March 1998)

Eric Raymond

<https://firstmonday.org/article/view/578/499>

Internet Platforms

The New Governors: The People, Rules, and Processes Governing Online Speech (Harvard Law Review, 2018)

Kate Klonick

https://harvardlawreview.org/wp-content/uploads/2018/04/1598-1670_Online.pdf

** Special thanks to [Andreessen Horowitz](#), [Govlab](#), and [Blockchain at Berkeley](#) for earlier compilations of blockchain-related materials, and to Askshit Kawatra for research assistance.*