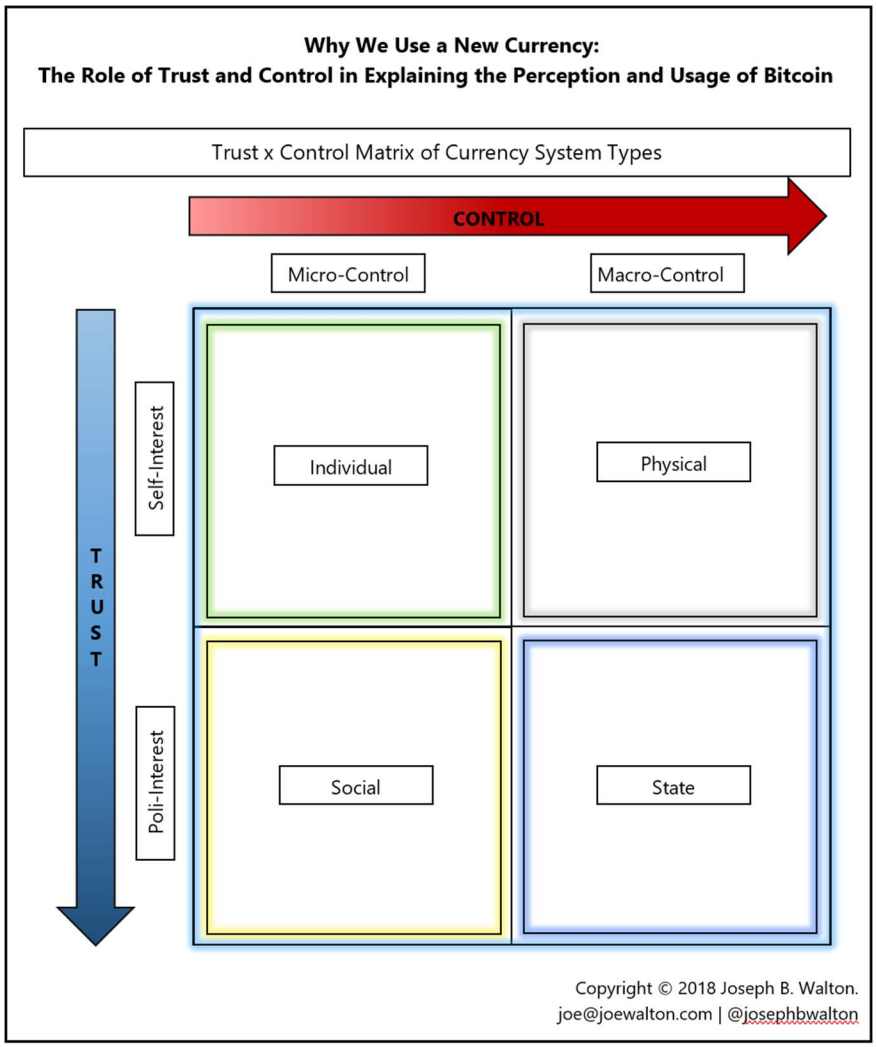
Joseph Buckler Walton, Ph.D., MPA, CISSP
Research Highlights

Overview

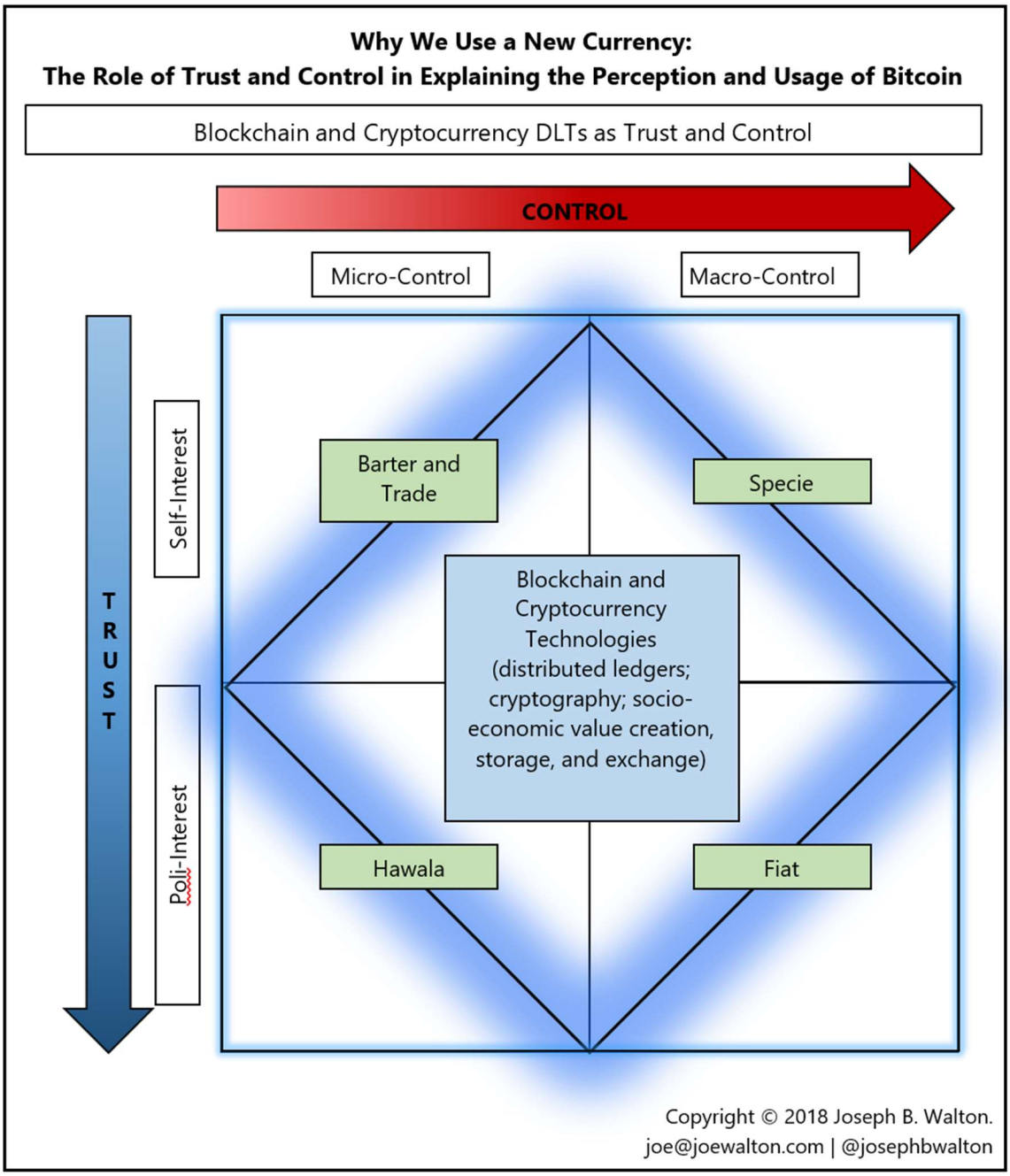
As a distributed computing fanatic (distributed.net & SETI) and Bitcoin & Monero miner, all-around cryptocurrency HODLer and Information Security professional, Joe's first public policy theories on cryptocurrency and blockchain were developed in the fall of 2014. Since then, he has written, presented, and spoken extensively on cryptocurrency, blockchain, socio-economic value, and the social life of money. His goal is to establish frameworks to better understand these new technologies amid the chaos of their disruptive introduction.

His dissertation title is: *Why We Use a New Currency: The Role of Trust and Control in Explaining the Perception and Usage of Bitcoin* with the results of that and other research pending for publishing in book and journal form. His interests focus on policy implications for use cases of cryptocurrencies and blockchains to further digital identity, security, privacy, and decentralized governance to further liberal democratic principles.

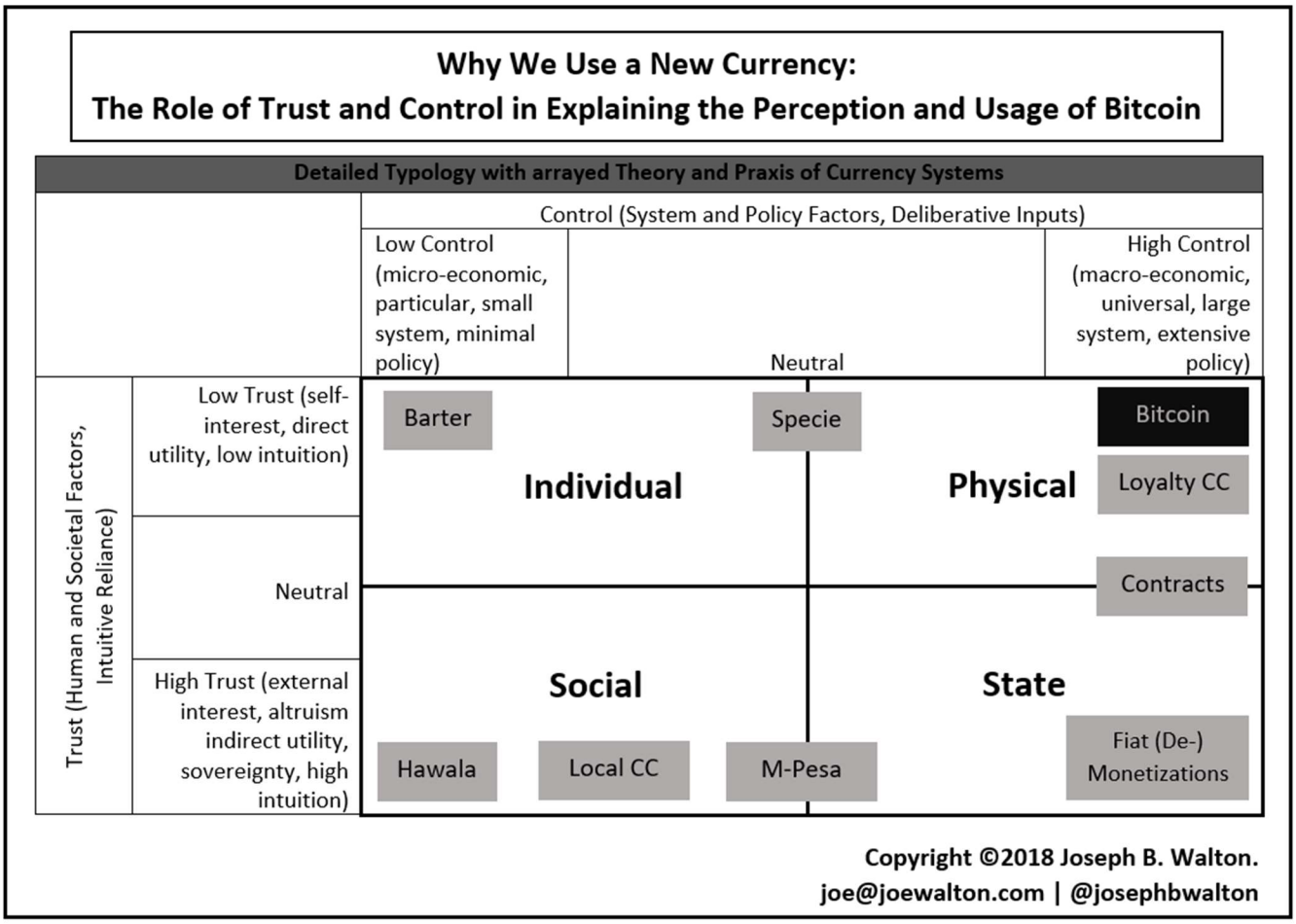
He has developed theories and explorative narratives that focus on policy and sociologic treatments of currency and blockchain systems based on his original matrix of trust and control defining socio-economic value and exchange (currency systems) as follows:



Any point on this matrix is a different type of socio-economic value, broadly in four types: personal, physical, state, community. His main argument is that blockchain (on the graphic below, the blue diamond in the middle; depicted as a diamond for display effect, it actually covers the matrix) and distributed ledger systems can be used at any point of intersection on this matrix, which represents the two vectors of trust and control, depicted as follows with four nominal/prototypical examples in each quadrant:



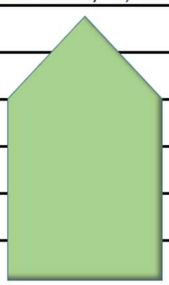
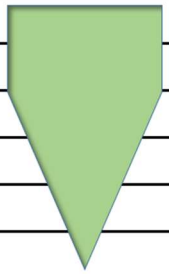
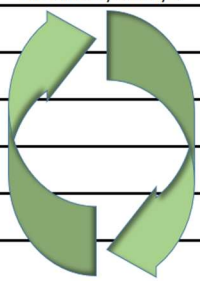
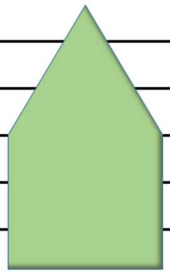
A fuller chart of existing currency systems and where they intersect in trust and control expression, with descriptions of each characteristic, is as follows:



A currency system could fill a gap anywhere on this matrix and adoption is predicated on a given individual's intuitive and deliberative disposition that can be based on a variety of individual, sociological, or cultural traits. In summary: intuition and deliberation are the essence of behavioral economics (Kahneman); there are bounds to our rationality for socio-economic choices (Simon); socio-economic value and exchange systems (currencies) are simply various manifestations of these conditions.

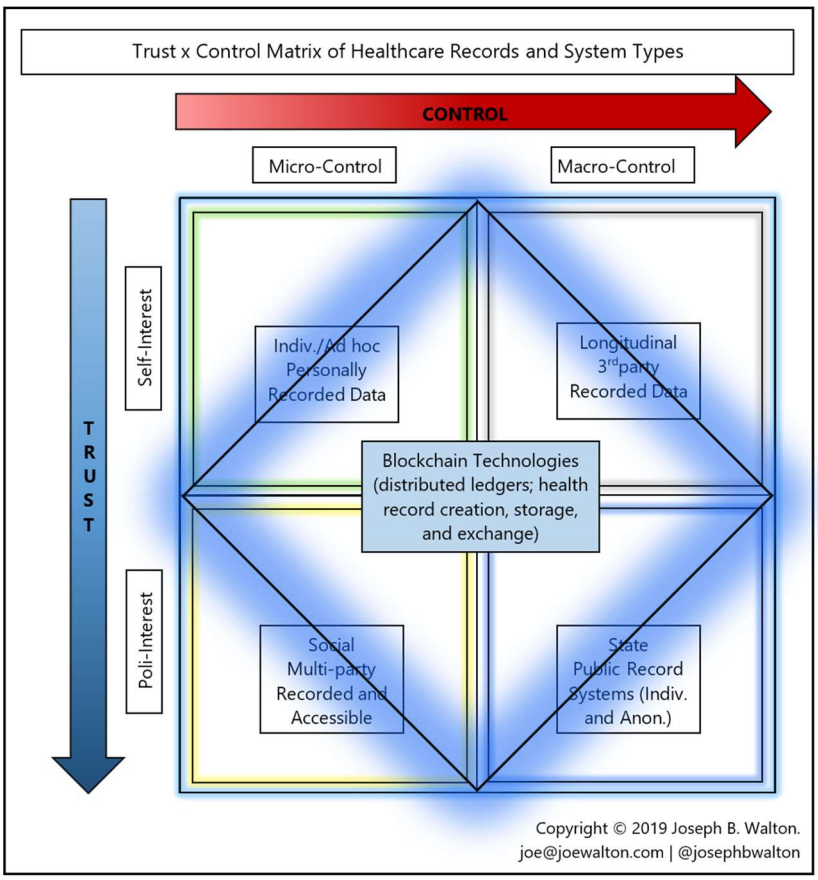
But a currency system does not come into being and persist without the awareness and understanding of the users. There is a semiotic foundation for how currencies are understood and accessed by individuals, the managers of the currency system, and society as a whole.

Accordingly, currency systems themselves can be depicted as a semiotic understanding comprised of several layers as demonstrated in this semiotic ladder of major currency systems:

Semiotic Ladder Depicting Major Value Exchange Systems					
		Specie Currency: 10,000+ yrs	Hawala: 1000+ yrs	Fiat Currency: 300+ yrs	Blockchain: Now
Human Levels Social World	Social Layer: Cultural norms, etc.				
	Pragmatic Layer: Communications, etc.				
	Semantic Layer: Meaning, validity, etc.				
Technical Levels Physical World	Syntactic Layer: Formal structure, code, data , etc.				
	Empiric Layer: Patterns, efficiency, etc.				
	Physical Layer: Physical aspects, electronics, etc.				
		Specie money is based on culturally defined* physical currency items (gold, silver, shells, grains) as a focus for the formation of trust.	Hawala and various country/region-specific Informal Fund Transfers started as and remain complex social fabrics of trust.	Fiat money, bills of exchange**, checks began and continue to be political interplays between human and technical semiotic indicia to achieve trust.	Blockchain systems are entirely digital/electronic constructs which are being applied to higher semiotic levels to become trust(s).
Semiotic Ladder adapted from Dhillon & May (2006) as based on Liebenau & Backhouse (1990)		* cultural definition depicted by the angular area of arrows, areas of trust; rectangualr areas are fixed, trust is not needed. Nota bene: fiat has no rectangular areas		** bills of exchange bear resemblance to hawala but were significantly more formal in genesis and evolution to checks and central banking	Copyright © 2018 Joseph B. Walton joe@joewlton.com | @josephbwalton

Specific Case

Extending the theory of a trust and control matrix as the essence of socio-economic value, an application of this matrix can be used to explore another socio-economic value, health records, which can be theorized as such:



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Concepts and Drafts
Drafts:
- Legitimizing Blockchain Technology: Defining Socio-Economic Value as Trust and Control
- The Semiotics of Demonetization
- Through the Looking Glass of Currency Systems: Social Stratification, Wealth and Income Inequality
- From Barter to Bitcoin: Semiotic Ladders of Socio-Economic Value

Concepts:
- The Sociology of Digital Currencies: A longitudinal survey of perception and usage (collab. with industry, trade journal, academia)
- Campaign Finance as a Socio-Economic Value
- Blockchain as Decentralized Trust: The Four Quadrants of Trust
- EQ and NO by Proxy: The Effects of Significant Others on Voting Preference and Choice
- The Semiotics of 3-D Printing

Published Online SSRN – https://papers.ssrn.com/sol3/cf_dev/AbsByAuth.cfm?per_id=2446217
- *Understanding User Perceptions of Virginia's e-Procurement System eVA* [co-author], 2014
- *Cryptocurrency Public Policy Analysis*, 2014
- *Habermasian Lifeworld & Durkheimian Anomie: Legitimizing Currency*, 2015
- *Social Equity Survey & Analysis*, 2016

Published Online Medium.com – https://medium.com/@josephbwalton
- *Social Equity in Public Administration* (cross-post from SSRN)
- *Campaign Finance and the Supreme Court: Is Public Campaign Finance the Only 'Legal' Non-Corrupting Choice for U.S. Elections?*
- *Centralized Currency Systems are Political Pornography*

Peer-reviewed
- AMCIS 2017 conference proceedings: *Understanding Digital Crime, Trust, and Control in Blockchain Technologies*

Advocacy
From a policy advocacy perspective, he believes U.S. legislators, regulators, and NGO/private agents should exhort the safe and effective interaction with blockchain and cryptocurrency by the general public. They should also surveil and collaborate internationally on worldwide usage of blockchain and cryptocurrencies in public and private sector domains as a net positive good for society.

Public and private-sector levels and layers of governance increasingly need cost-effective and secure technologies to meet their administrative and process needs. Typically, this results in mergers and consolidation of control and administration into ever-larger bureaucracies and monopolies because of economies and efficiencies of scale rhetoric. However, with distributed ledger systems that transcend proprietary brands and are not siloed at any given layer of governance or hedged by trust boundaries, these needs can be met while supporting decentralized governance.

Public/neutral-party blockchains and cryptocurrencies, where individuals or groups trust and control selective access to their own data and value exchange, can resist corporate and public sector tendencies and trends to monopolize or nationalize bureaucracies – or malicious agents' attempts to compromise those systems.

Contact & background
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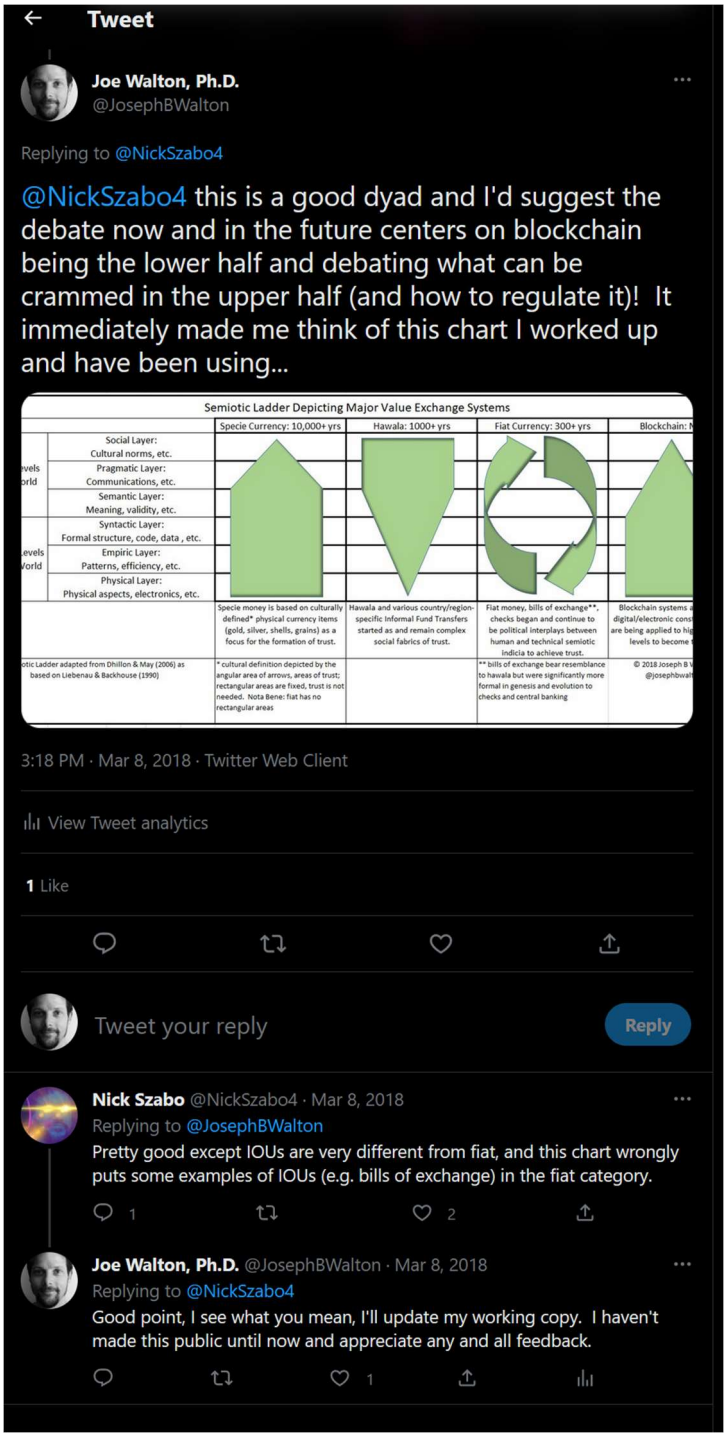
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