SoK: Blockchain Technology and Its Applications

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Abstract—**Abstract goes here.**

Keywords-**keyword;**

Possible reader goals. Jeremy's suggestions:
1) ???
2) ???
3) I no longer have to read the 100+ industry whitepapers, as they are summarized here.

Scott's suggestions:
1) What is Blockchain and what is it not? What are its key properties? What are not properties of Blockchain?
2) What are possible use case areas for Blockchain research. How do I know if my research area might benefit from Blockchain?

I. INTRODUCTION (ROB/ARKADY/JEREMY)

Short history of Bitcoin (1–2 paragraphs) Summary of the research ideas that are part of Blockchain (Jeremy's article) Bitcoin itself

Blockchain technology Evolved from bitcoin What can we do besides cryptocurrency?

Why industry? Academia was slow to appreciate Bitcoin and later Blockchain technology Industry saw potential and began running with it Most of the interesting work is happening outside of academia Academia is more focused on important, but more ticky-tacky details Industry has built up knowledge around Blockchain, its properties, and its uses

Open question: how do we integrate what we've learned from academia into the intro and elsewhere in the paper.

II. METHODOLOGY (SCOTT)

Motivation Separate out the data from the hype Collective knowledge of the masses

Processes Grounded theory 4 stages Theory generation Graph

Limitations

III. RESULTS (BEN)

Types of items Primitives Properties Technological Normative Discuss why it was meaningful to separate these two Capability

Key properties of Blockchain Governance Game theory Consensus Rules Smart contracts Oracles Data structures Distributed data store Distributed ledger Resillience

Capabilities Provenance Data discoverability Access control for tokens Resilience etc...

What we added that wasn't in the original graph Also why

IV. BLOCKCHAIN CRITERIA (BEN/SCOTT)

How do we know which use cases are good fits for blockchain?
1) Decentralized governance 2) Auditability 3) Resiliency
How do these relate? Is there a question train we can create?

V. USE CASE EVALUATION (JERAMEY)

Open question: should we also discuss applications that are discussed in the literature, but turn out to not be great fits? If so, where does this fit. This section and the last are really more centered around us imposing knowledge.

List application areas Why are they good Interesting research questions

VI. DISCUSSION (ALL)

What are the implications of our results? How should people use / think about our work?

VII. CONCLUSION

Blockchain is good when used right. Let's use it correctly!
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REFERENCES

[1] I. Freely. A small paper. *The journal of small papers*, -1, 1997. to appear.