Using Blockchain to Solve Government Problems

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Blockchain = Decentralized Trust

Trust the system without—so it seems—trusting any actor within it.

A family of distributed ledgers, starting with Bitcoin, for secure exchange of value through consensus.

“Logically centralized, organizationally decentralized.” (Wenger)
Adoption and Potential

Cryptocurrencies in circulation worth ~$300 billion (high of $750 billion 12/17)

Over $15 billion raised in token offerings in 2017-18

IBM has done >500 engagements, >40 production enterprise networks

$176 billion in added business value by 2025, and $3.1 trillion by 2030 (Gartner)

**BUT so far**…limited real transactional usage, massive volatility, technical uncertainty, significant fraud and thefts, unclear regulatory outcomes.
Blockchain Value Propositions

**TRUST MINIMIZATION**
- No dependence on the state
- Single point of failure
- Monopoly tax

**TRUST EXPANSION**
- Avoid reconciliation
- Automated execution
- Integral auditability
To Coin, or Not to Coin?

“Cryptoeconomic” systems based on incentives created by digital currencies.

VS.

“Permissioned” systems creating shared trust among identified participants.
**Why Blockchain for Government?**

<table>
<thead>
<tr>
<th>ENVIRONMENT</th>
<th>REQUIREMENTS</th>
<th>BENEFITS</th>
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<tbody>
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<td>Low trust in government institutions.</td>
<td>Strong security essential.</td>
<td>Government as platform.</td>
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<td>Signal tech-savviness.</td>
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Accurate Recordkeeping
West Virginia Becomes First State to Test Mobile Voting by Blockchain in a Federal Election

The state is performing a pilot test for military service members who can’t vote in person.

BY BEN MILLER / MARCH 28, 2016

West Virginia has become the first state to allow Internet voting by blockchain, offering the technology to deployed and overseas military service members and their families in two counties.
WFP is taking first steps to harness blockchain technology to enhance our ability to provide effective, efficient assistance to the people we serve – and save millions of dollars.
Streamlined Compliance

Using Blockchain to Solve Regulatory and Compliance Requirements

Since the financial crisis in 2008, the speed and breadth of regulatory change

How a VAT transaction is processed without Blockchain

1. A VAT invoice is issued by the company
2. The Client pays the bill, including VAT
3. Information about the payment is recorded into the Company’s system
4. The company pays their suppliers bill ex by bank transfer
5. The company calculates VAT due to the tax authorities and files a tax return (quarterly, monthly, yearly)

How could VAT be processed using Blockchain

1. The client pays the invoice to the company
2. The company pays the suppliers invoice

Source: Deloitte
Novel Capabilities

By Helen Partz

MAY 03, 2018

Berkeley City Council Moves Ahead With Pilot Program For Issuing City Bonds On Blockchain

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Figure 1. Blockchain in the public sector, as of March 2017

Blockchain experiments in the public sector are accelerating globally, with a concentration in the US and Europe.

Top 10 most active public sector use cases*

1. Digital currency/payments
2. Land registration
3. Voting (elections)
4. Identity management
5. Supply chain traceability
6. Health care
7. Voting (proxy)
8. Corporate registration
9. Taxation
10. Entitlements management

* Measured by observing the number of public sector blockchain experiments planned, in progress, or stalled globally

Source: Deloitte analysis in conjunction with the Fletcher School at Tufts University.
Thank you!