BITCOIN, BLOCKCHAIN – AND THE FUTURE OF MONEY

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Jack Shaw
Technology Futurist
October 31, 2008

at the height of the global financial crisis...
The First Use Case for Blockchain

Blockchain

Bitcoin is an implementation of the technology

Blockchain is the core technology
Blockchains Provide

A Permanent, Immutable, Signed, and Time-stamped Record of Identity, Ownership, Transactions, or Commitments
Blockchains Provide

Records can be shared among two or more Entities – without an intermediary.
Blockchains Provide

Globally available with Complete Transparency – for Those Authorized
Blockchains Provide

Unhackable Security against Those Unauthorized
Identical Copies – Distributed Nodes
+12,265,000% Growth +126,500X Gain In 8 Years
(Based on Bitcoin ATH of $7,590/$.06)
CRYPTOASSETS

The Innovative Investor's Guide to Bitcoin and Beyond

CHRIS BURNISKE & JACK TATAR

FOREWORD BY BRIAN KELLY, CNBC CONTRIBUTOR
EVOLUTION OF MONEY
VECTOR ILLUSTRATION

- Barter
- Gold
- Metall Coins
- Paper Money
- Plastic Cards
- Electronic Money
- Crypto Currency
Why Not Electronic Medical Records?
Why Not Land Titles?
Why Not 3D Printing Design Files?
Why Not Purchase Orders?
Supply Chain Ecosystem “Leakage” Opportunities
Sharing Data Across Supply Chain Ecosystem via Blockchain

Common Data Pool Securely Shared Across Ecosystem via Blockchain
“A smart-contract is a computer program, which runs on a replicated, shared ledger (Blockchain), which can take custody over assets on that ledger, and which can track what has happened to date and respond to incoming information or events.”
Port of Qingdao
Blockchain & P.O. Management

Current environment:
- Supplier statement reconciliation – company receives supplier statement & reconciles to what is recorded on company ledger (due to goods in transit, services verification, credit/debit notes, etc.)

Blockchain environment:
- All activities recorded; parties instantly see status of reconciliation; simplifies back-office processes; reduces settlement risk.
- Purchase orders time-stamped; they become valid clauses executed with smart contracts.
- When products or services are delivered, blockchain ensures correspondence to contract (e.g., date and time of arrival; condition; purchase order match).
Self-Sovereign Digital Identity
Blockchain and IoT
Blockchain Performance Impact

- Food Safety
  - Time to track mangos to source

  **Traditional: 6 days, 18 hours, and 26 minutes**

  **Blockchain: 2 Seconds**

- In the event of an *E. coli* or salmonella outbreak, the difference between two seconds and six-plus days can be decisive, even lifesaving.
- Fraud prevention – granular, real-time records
- Identify & resolve bottlenecks
- Mitigate regulatory & compliance issues, reducing costs of storage, fines, penalties, fees and interest
Impacts of Blockchain on Supply Chain

- Create A More Transparent Supply Chain
  - Enhance sales forecasting and inventory control
  - Automated and fully audited
  - Rapid and transparent transactions
- Improve Trust And Transparency
  - Provenance
- Reduce Counterfeit Goods
  - Tilkal
The Rate of Change

“We always overestimate the change that will occur in the next two years and underestimate the change that will occur in the next ten. Don’t let yourself be lulled into inaction.”

Bill Gates
But NONE of this matters

Unless you have a strategy for digital transformation
Linear supply chains are evolving into complex, dynamic, and connected value webs. Value is based on knowledge exchange that drives proactive production of goods and services, unlike the traditional linear supply chains where value is based on the production of goods and services.
Making predictions is very hard, especially about the future.

Yogi Berra
Predictions?

• “We don’t sell books!”

• “This notion you’re peddling...”

• Nevertheless...
Transformational Technologies
World’s Smallest Lithium Ion Battery
400 lb. Bioplastic Cornerstone
for Canal House in Amsterdam
GE’s Printed Jet Fuel Nozzles

- One part instead of 18.
- 5X as durable as regular one
- 25% lighter
- Runs cooler with internal cooling structures
Printing Electronic Devices

• 3D printed working electronic devices printed with a new type of plastic, called "Carbomorph", that conducts electricity.
• Printed a simple computer, a glove containing flexible sensors and a mug that knows how full it is.

Research group leader Dr. Simon Leigh
University of Warwick, UK
Internet of Things
From Data Analytics to AI

- Descriptive Analytics
  - “What Happened?” *Business Intelligence*

- Predictive Analytics
  - “What’s Going to Happen”

- Prescriptive Analytics
  - “What Needs to be Done?”
Imagine an AI which is so clever that it:

- Schedules production based on maximum machine performance and least impactful changeovers;
- Assigns available staff with the greatest efficacy for a particular product;
- Forecasts and optimizes material inventory;
- Communicates directly with customers when order is complete, and when it arrives;
- Coordinates deliveries, with real-time traffic awareness, knows delivery truck locations, and connects directly with the drivers to reroute for efficiency;
- Predicts product lines’ sales trends that haven’t even been recognized by humans yet, and steers you towards making more of what is selling.
The Critical Role of Blockchain in Digital Transformation

- Most Emerging Technologies are Point Solutions
  - 3D Printing
  - Augmented / Virtual Reality
  - IoT
  - Even AI
- They apply at a specific organizational or even geographic points.
- Blockchain is different.
- It provides the decentralized Infrastructural Glue that ties all of the points together.
- It enables the Digital Transformation of not just individual processes or organizations, but entire business and/or social ecosystems
Digital Transformation

• Digital Transformation is NOT about force fitting new technologies into your existing business.

• It’s about reimagining your business model. Don’t use technology to make your current model marginally more efficient.

• Understand how new technologies affect working processes.

• Then using any and all technologies needed to implement the new vision.
Most Common Hurdles to Blockchain Adoption

- Understanding blockchain and use cases: 53%
- Communicating blockchain to key decision makers: 50%
- Evaluating cost-benefits of use cases: 50%
- Uncertainty around time needed to start reaping benefits: 43%
- Other technology investments taking priority: 43%
- Reengineering business process: 41%
- Understanding legal and compliance issues: 40%
- Procuring talent and expertise: 40%
- Ensuring data security: 38%
Blockchain Transformation Timeline

- Awareness – Communication
- Understanding – Education
- Strategy – Planning
- Implementation
  - Proof of Concepts
  - Growth Across Enterprise
  - Expansion across Ecosystem(s)
“Change does not necessarily assure progress, but progress implacably requires change.”

Historian Henry Steele Commager
Follow Up

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