Blockchain Technology: How Will It Affect Investment Management?

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September 7, 2016
The Blockchain Novelty

- Software Engineering
- Cryptography Science
- Game Theory
How to view the Blockchain

Back-end database that maintains a distributed ledger, openly.

Exchange network for moving value between peers.

A transaction validation mechanism, not requiring intermediary assistance.

Everything Today Requires DB Synchronization via Private Networks or Trusted Third Parties

Customer AA wants to transfer $5 to person BB

Bank A

Owns Database A
Confirms AA has at least $5

Bank B

Owns Database B
Confirms BB can receive $5

Clearing House

SWIFT

Escrows
Custodians
Trusted Parties

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The Blockchain Enables P2P Transactions

User AA
Initiates transfer from their wallet

User BB
Receives funds in wallet

BLOCKCHAIN

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Shared Documents Analogy

Google docs vs. Microsoft Word
Many Facets to the Blockchain

1. Cryptocurrency
2. Computing Infrastructure
3. Transaction Platform
4. Decentralized Database
5. Distributed Accounting Ledger
6. Development Platform
7. Open Source Software
8. Financial Services Marketplace
9. Peer-to-Peer Network
10. Trust Services Layer
Blockchains, like the Web, need the Internet.

4 Types of Blockchain Applications

- Hybrid Blockchain Web Applications
- Native Blockchain Applications
- Hybrid Blockchain Private Applications
- Private Blockchain Native Apps

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In the mid-2000’s FinTech Attacked the Banks, and it was called “Unbundling”

- In startup fashion, most attacks aren’t head-on, start small & look harmless at first sights, therefore are ignored.
- So, the banks didn’t feel FinTech initially, because it crept up.
- The blockchain will repeat FinTech.

Graphs Source: CB Insights
INFRASCTURE & BASE PROTOCOLS

Public
- bitcoin
- ethereum
- ripple
- stellar

Special - Payment
- Lightning Network
- Monero
- Bitcoin Cash
- AntPool
- BitFury

Miners
- 21 Inc.
- BTCC
- OKCoin
- BTC China

Smart Contracts
- Solidity
- Truffle
- Web3

Platforms
- Counterparty
- Lisk
- Monetas

Special APIs
- Open Assets
- bitbind.io
- colu

General APIs
- BitGo
- Bitcore
- coinbase
- Manifold

Software Development
- Chainscript
- Hyperledger Fabric
- Eris

Middleware & Services
- BBVA
- UBS
- LHV
- BNY Mellon
- Barclays
- Monero

Banks
- BBVA
- UBS
- LHV
- BNY Mellon
- Barclays
- Monero

Money Services
- CRYPTO PAY
- ABRA
- Bitwala
- Symbiont
- Simplex
- R-BIT

Exchanges
- Bitfinex
- Kraken
- Binance
- Poloniex

Brokerage
- BitPesa
- Coinify
- CoinPayments

Platforms
- NEO
- NEM
- Mijin
- RChain
- ICON

Merchants
- BitPay
- Coinsetter
- Coinbase

Compliance
- Chainalysis
- Eris

Trade Finance
- Gazebo.io
- Chronicles
- VAFC

Financial Data
- bitcointalk
- CryptoCoin
- BlockJockey

Payroll & Insurance
- paybits
- bitwage

Payments
- Gazebo.io
- GemPay
- CoinPayments

Trade
- CoinGecko
- CoinMarketCap

Investments
- Grayscale
- Lienbase
- Lightcoin
- BSAVE.IO

Microtransactions
- BitWall
- ChangeTip
- Pro Tip

Soft Wallets
- AirBitz
- Blockchain
- Electrum

Hard Wallets
- Trezor
- Ledger
- KeepKey

ATMs
- Bitcoin ATM
- BlinkTrade
- Glidera

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Source: http://startupmanagement.org/blog
Blockchain in Financial Services

- Dozens of Players
  - Clearing Networks
  - International Transfers

- Inter Industry Intermediaries

- Hundreds of Processes
  - IT & Business Reengineering to support all these changes

- Back-end Processes

- Thousands of Use Cases
  - Securities & instruments
  - Syndicated Loans
  - Clearing & Settlements
  - Assets Ownership
  - Bond sales
  - Digital Receipts

- Millions of Businesses
  - B2B Services
    - Insurance Payments
    - Trusts
    - Escrow

- Billions of Users
  - Consumer Facing
    - Mortgages
    - Digital identities
    - Wallets
    - Exchanges
    - Simple transfers & Payments

- Increasing evolution complexity & delivery timeframe

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Defining Technology Eras

IT Supremacy
- Data computation
- Database applications
- Transaction processing
- Business Intelligence
- Global operations
1994

Internet Years
- E-Commerce
- Self Publishing
- Personal Communications
- Social Interactions
2015

Blockchain Promise
- Decentralization of Trust
- Enabling
- Value Flow without Intermediaries
ATOMIC Blockchain

Programmable

ASSETS
TRUST
OWNERSHIP
MONEY
IDENTITY
CONTRACTS
Proofs as a Business / Service

THE PROOFS PYRAMID

More technology

More business

Proof-in-a-Service

Proof-as-a-Service

Proof-in-a-Consensus

PROOF-IN-A-SERVICE

- Wedding registry
- Land registry
- Supply chains
- Asset registrations

- Counterparty transactions
- Accounting audits
- Voting
- Deed transfer

PROOF-AS-A-SERVICE

- Proof of asset
- Proof of identity
- Proof of authenticity
- Proof of individuality

- Proof of ownership
- Proof of physical address
- Proof of provenance
- Proof of receipt

PROOF-IN-A-CONSENSUS

- Proof of work
- Proof of stake

- Proof of authority
- Proof of existence

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THE BUSINESS BLOCKCHAIN [35]
OpenBazaar: Decentralized P2P Commerce

A Free Market for all.
No Fees. No Restrictions.

Hymettus Honey (From Greece)
@hymettus
“The buying and selling works flawlessly, I'm very impressed. I've made over twenty purchases and the total fees were less than $1.40 for all twenty purchases and sales. That's great.”
And New Models Are Emerging

The Relationship Between Tokens, Value and Work

WORK

VALUE

Actions

Transaction

Tokens

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Some Thoughts on the FS

- FSI are undertaking a variety of activities:
  - Poking at startups and trying them
  - Planning their own blockchain initiatives
  - Many have aligned with R3, DAH or Chain as their main partners
- For most of them, the attention is on cost savings and process improvements, not pure innovation (bottom line)
- Few are thinking strategically about how they could innovate outside of the regulatory boxes
Innovation Potential for

REGULATED ENVIRONMENTS

UNREGULATED ENVIRONMENTS
How New Technology Permeates

- NEW COMPANIES AND BEHAVIORS
- INSIDE EXISTING COMPANIES
- THREATENED OR TRANSFORMED
- JUST TECHNOLOGY
Who will be the next Google of the blockchain?
Who will be the next Amazon of the blockchain?
Who will be the next _____ of the blockchain?
The first large bank to accept cryptocurrency?
Crossing $1B assets traded on blockchains?
The first crypto-based economy business?
Some Use Cases

Financial Services

- eTRS (ConsenSys, Microsoft, IPFS)
- Clearmatics, DCN for OTC derivatives
- Cambridge Blockchain catastrophe bond counterparty validation
- CORDA / R3 Consortium
- Securities Insurance, Corporate Actions (Dividend/Stock Splits, Ownership Registry, Trade Reconciliation, Cash Payments, etc.)

Government

- Delaware, Singapore, Estonia, Ukraine, Russia, Georgia, UK

Energy, Healthcare, Internet of Things
What To Watch For

- Regulatory sandboxes
- Blockchain record keeping acceptance
- Emergence of new clearing networks
- Documented benefits (costs, speed, risk, visibility)
Implications for Fund Managers

- Sell side vs. Sell side
- Crowd funding of companies
- New Asset classes
- Private Blockchain Activity
- Investment opportunities
Become part of the conversations.
thank you

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