How to Make the Best of Blockchain — Types of Blockchain Projects and How They Add Value

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By 2022, a blockchain-based business will be worth $10 billion.
Blockchain — Still at Mega Hype?

Industry Hype Is Increasing

Blockchain

Bitcoin

As of August 2017

Innovation Trigger
Peak of Inflated Expectations
Trough of Disillusionment
Slope of Enlightenment
Plateau of Productivity

Years to mainstream adoption:

- O less than 2 years
- 2 to 5 years
- 5 to 10 years
- ▲ more than 10 years
- ❌ obsolete before plateau

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Most of the blockchain projects in enterprises focus on yesterday's business models
Key Questions

Why is blockchain the best option?
What is Blockchain?

1. Distributed Ecosystem

Always up due to not one central point of failure in the blockchain
What is Blockchain?

2. No Intermediaries

Breaks down traditional barriers enabling new market entrants to create new business model innovations
What is Blockchain?

3

Transactional Database of an Ecosystem

Creates the facility for an irrefutable record while also providing massive potential cost-savings.
What is Blockchain?

4 All Blocks Replicated Across Ecosystem

Transparency achieved through algorithmically driven replication of blocks across network.
What is Blockchain?

5

Algorithm Driven Authentication

Data trustworthiness ensured through an AI challenging protocol.
What is Blockchain?

6 Transactional Database of an Ecosystem

Tamperproof architecture requires alterations of transactions to rewrite all subsequent blocks. **All Tx history** is within each block.
Recommendation #1: Start with the Business Case NOT the Technology

Checklist:
- Agree whether a use case exists.
- Determine if success needs other firms.
- Be realistic about the technology.
- BUT: Invest in skills for the future.
Recommendation #2: Discover New Business Opportunities

- Conduct Ideation Workshops with Business Partners
- Compare and contrast what others within or outside your industry
- Gain Inspiration and Leverage Blockchain Use Cases Library
Key Questions

3

Why is blockchain the best option?

What blockchain style will enable value?
There Are Four Types of Blockchain Initiatives

- Blockchain as the Disruptor
- Blockchain as the Digital Asset Market
- Blockchain as the Efficiency Play
- Blockchain as the Record Keeper
There Are Four Types of Blockchain Initiatives

Blockchain as the Disruptor

New businesses that rely on a blockchain foundation. Business model may not be new.
Toyota’s Partnership with MIT for Blockchain Auto
Other New businesses that rely on a blockchain foundation. Business model may not be new.
There Are Four Types of Blockchain Initiatives

Blockchain as the Digital Asset Market

New markets based on digital assets formed from nondigital ones (physical and virtual).
Real World Scenario: Counterfeit Pharmaceuticals

10%-30% of drugs sold in developing countries are counterfeits.

80% of the counterfeit drugs consumed in the US come from overseas.

The global market for counterfeit drugs is $200 billion dollars.
Other new markets based on digital assets formed from nondigital ones (physical and virtual).
There Are Four Types of Blockchain Initiatives

Blockchain as the Efficiency Play

Efficiency improvements in transactions, interactions and tracking provenance of assets.
Blockchain Solving Healthcare Challenges

Challenge: Health Information Exchanges leverage intermediary to establish point-to-point sharing and “book-keeping” of what data was exchanged.

- **One version of the truth.** Inconsistent Rules and Permissions inhibit the right health organization from accessing the right patient data at the right time.
- **Data privacy.** Risks arise as multiple patient identifiers exchange data.
- **Expensive integrations.** Varying Data Standards reduce.
- **High Cost Transaction Costs.** Low transaction volumes, reduces the business case.
Nationwide health information interoperability

Providing an ubiquitous and secure network verifiable medical data, and participants have complete control over access to their data.

1. Health organizations provide services to the patients
2. Clinical data is tracked in existing health IT systems
3. Standard data fields and the patient's public ID is directed to the blockchain Via APIs
4. Smart contract processes incoming transactions
5. Each patient transaction is stored on the blockchain
6. Non-identifiable patient information is viewable
7. Data can be analyzed to uncover new insights
8. Patient’s identity is secured through private key on the blockchain
9. Using this identity new health organizations can get access to the patient's data
10. Using smart contracts they can choose the conditions of sharing their health data
Efficiency improvements in transactions, interactions and tracking provenance of assets.

Supply Chain

Container Shipment

Clearing and Settlement
There Are Four Types of Blockchain Initiatives

Blockchain as the Record Keeper

Records management by one entity, for self or for a community.
Records management by one entity, for self or for a community.

Digital Identity  Shareholder Lists

Land Titles
More Blockchain Activities in Public Sector

Singapore

Fraud Prevention
• Singapore Government is seeking to prevent traders from defrauding banks
• The Singapore government has developed a system with the local banks focused on preventing invoice fraud by using the blockchain to create a unique cryptographic hash (a unique fingerprint) of every invoice

Estonia/ Denmark

e-Residency
• Estonia has established an e-residency program residents receive a digital ID card with a cryptographic key to securely sign digital documents
• a blockchain-based e-voting service that enables people to become shareholders of Nasdaq’s Tallinn Stock Exchange
• The system is an identity platform that gives Estonian citizens and businesses digital authentication. This gives members of the e-Residency program access to certain government programs.

UK Government

Government grants and welfare
• Protecting critical infrastructure against cyberattacks
• Tracking eligibility, registration & payments for Govt grants and benefits
• Strengthening International Aid Systems
• Reducing Market Friction and Enabling Innovation for SMEs
• Reducing tax fraud and reducing EU’s VAT shortfall
• Mayor of London considering to place the entire mayoral budget on blockchain - transforming public sector budgets
• Further, Credits, UK’s blockchain-as-a-service* start-up has started to provide the blockchain services to the UK’s public sector through the G-Cloud framework

Georgia/ Ghana/ Sweden

Land Registrations
• Another emerging area of focus is in government land registries
• The Republic of Georgia: blockchain project focused on land registries
• Ghana, West Africa: Land registry application is taking shape to enable tamper-resistant property ownerships
• Sweden is planning to place real estate transactions on the blockchain
Four Types of Blockchain Initiatives and How They Differ

- **Blockchain Disruptor**: New Business Models
- **Digital Asset Market**: New Revenue Channels
- **Efficiency Play**: Growth in Existing Business Models
- **Record Keeper**: Cost Savings

- **New Business Models**
- **Current Business Models**
- **New Revenue Channels Growth in Existing Business Models**
- **Cost Savings**
Key Questions

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How do I get started?
Your 30, 60 and 90 Days Plan

30
- Perform scenario planning to identify specific areas where blockchain and decentralization will affect your industry.

60
- Initiate proofs-of-concept to learn about decentralization and the major platforms.
- Look and learn from examples across your peers and disruptors across the four types of blockchain projects.

90
- Use lessons to reimagine business processes, business models, markets and products.
Sample Cross Industry Use Cases

Financial
Trading
Deal origination
POs for new securities
Equities
Fixed income
Derivatives trading
Total Return Swaps (TRS)
2nd generation derivatives
The race to a zero middle office
Collateral management
Settlements
Payments
Transferring of value
Know your client (KYC)
Anti money laundering
Client and product reference data.
Crowd Funding
Peer-to-peer lending
Compliance reporting
Trade reporting & risk visualizations
Betting & prediction markets
Micropayments
B2B international remittance
Tax filing & collection

Media
Digital rights mgmt
Game monetization
Art authentication
Purchase & usage monitoring
Ticket purchases
Fan tracking
Ad click fraud reduction
Resell of authentic assets
Real time auction & ad placements

Asset Titles
Diamonds
Designer brands
Car leasing & sales
Home Mortgages & payments
Land title ownership
Digital asset records

Government
Voting
Vehicle registration
WIC, Vet, SS, benefits, distribution
Licensing & identification
Copyrights

Computer Science
Micronization of work
Disbursement of work
Direct to developer payments
API platform plays
Notarization & certification
P2P storage & compute sharing

Medical
Records sharing
Prescription sharing
Compliance
Personalized medicine
DNA sequencing

Insurance
Claim filings
MBS/Property payments
Claims processing & admin
Fraud prediction
Telematics & ratings

IoT
Device to Device payments
Device directories
Operations (e.g. water flow)
Grid monitoring
Smart home & office management

Supply Chain
Dynamic ag commodities pricing
Real time auction for supply delivery
Pharmaceutical tracking & purity
Agricultural food authentication
Shipping & logistics management
Recommended Gartner Research

- **Practical Blockchain: A Gartner Trend Insight Report**
  David Furlonger and Ray Valdes (G00325933)

- **Hype Cycle for Blockchain Technologies, 2017**
  David Furlonger, Ray Valdes and Rajesh Kandaswamy (G00332627)

- **Hype Cycle for Blockchain Business, 2017**
  David Furlonger, Ray Valdes and Rajesh Kandaswamy (G00332628)

- **Cool Vendors in Blockchain Applications, 2017**
  Rajesh Kandaswamy, Fabio Chesini and Ray Valdes (G00328047)

- **How to Develop a Business Case for Blockchain Projects**
  Rajesh Kandaswamy and David Furlonger (G00323011)

- **How to Determine If You Need a Blockchain Project, and If So, What Kind?**
  Rajesh Kandaswamy and Fabio Chesini (G00320247)