Blockchain Technology
for Transparency and Governance

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Agenda

1 What is a Blockchain?

2 What can blockchain be used for?

3 Who is already using blockchain?

4 How can Microsoft help?

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Here's Why Blockchains Will Change the World

The Impact of the Blockchain Goes Beyond Financial Services

TECHNOLOGY

by Don Tapscott and Alex Tapscott

The Blockchain is the new Google

Posted May 11, 2016 by William Mougayar

CIO JOURNAL.

Why Blockchains Could Transform How the Economy Works

Is Blockchain the Most Important IT Invention of Our Age?

By The Guardian

GULF NEWS

GOVERNMENT

December 13, 2016 | Last updated 1 minute ago

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Skype Co-Founder Explores Blockchain's Role In Achieving Global Cooperation

Dubai launches Blockchain strategy to become paperless by 2020

Blockchain by the numbers

2008: Technology started with bitcoin

90+ **Central Banks**
involved in blockchain discussions worldwide
(source WEF)

1.4B
in Investments
Over last 3 years

2500+ patents
filed in last 3 years

90+ **organizations**
Joined blockchain consortia

80%
of Banks will initiate blockchain projects by 2017
(Source: WEF)

Source: World Economic Forum, August 2016

Some Governments already investing in Blockchain:
UK, USA, Estonia, Russia, Georgia, Sweden, Netherlands, UAE, Ghana, South Korea, Singapore

So What is Blockchain?

Blockchain is a secure, shared, distributed ledger

Shared & Open
Blockchain value is directly linked to the number of organizations or companies that participate in them.

Secure & Anonymized
Uses cryptography to create transactions that are impervious to fraud

Ledger
The database is append only so it is an immutable record of every transaction that occurs.
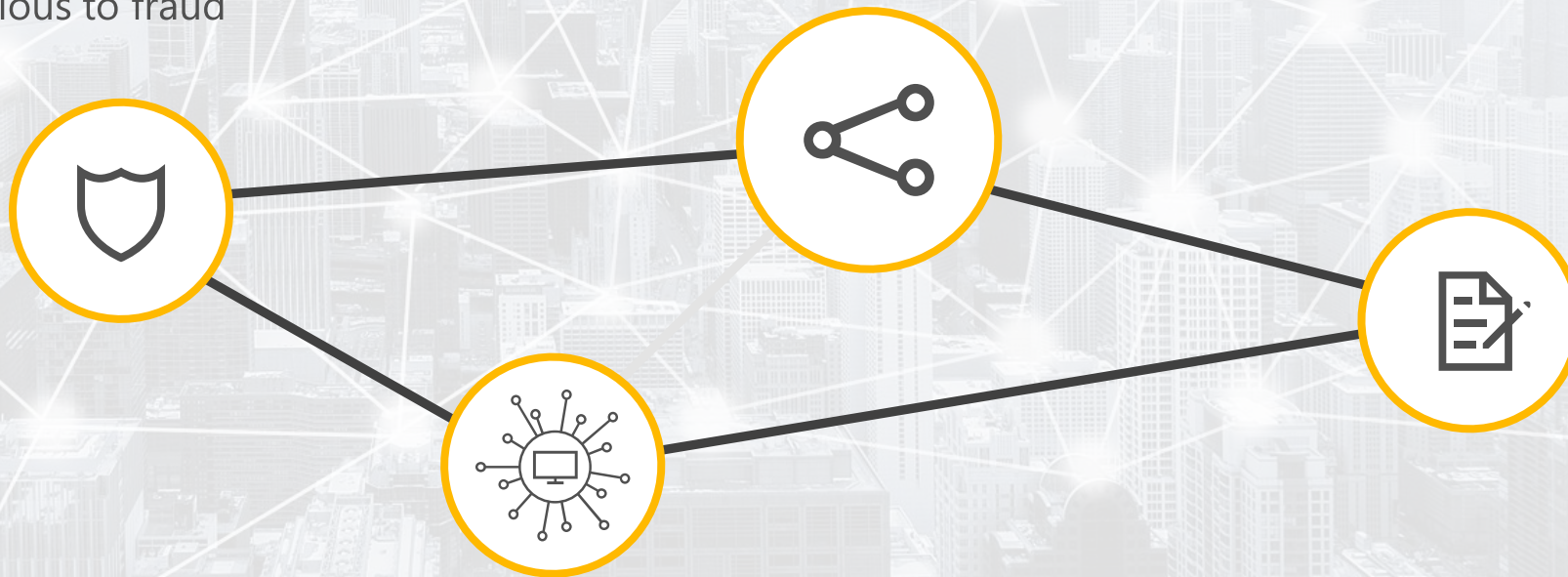
Distributed & Immutable
There are many replicas of the blockchain database.

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What is Blockchain Used for?

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Decentralization has great benefits & changes fundamental processes & models
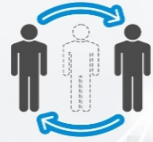
Simplify Operations
Allows industries to redefine or create new business models.

Reduces Fraud
Highly secure and transparent, making it nearly impossible to change historical records.

Increases Efficiency and Speed
Simplifies transactions and enables T+Zero settlement time.

Reduces Risk and Improves Trust
Challenges the need to trust counterparties to fulfill obligations as agreements are codified and executed in a shared immutable network.

Regulatory Efficiency
Enables real-time monitoring of financial activity between regulators and regulated entities.

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Popular scenarios where Blockchain adds value

Financial
Trading
Deal origination
POs for new securities
Equities
Fixed income
Derivatives trading
Total Return Swaps (TRS)
Second-generation derivatives
The race to a zero middle office
Collateral management
Settlements
Payments
Transferring of value
Know your client (KYC)
Anti money laundering
Crowd Funding
Peer-to-peer lending
Compliance reporting
Trade reporting & risk visualizations
Betting & prediction markets

Insurance
Claim filings
MBS/Property payments
Claims processing & admin
Fraud detection/prediction
Telematics & ratings
Digital authentication
Asset management
Automated underwriting
Self-administered insurance

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

Computer Science
Micronization of work (pay for algorithms, tweets, ad clicks, etc.)
Expanse of marketplace
Disbursement of work
Direct to developer payments
API platform plays
Notarization & certification
P2P storage & compute sharing
DNS

Medical
Records sharing
Prescription sharing
Compliance
Personalized medicine
DNA sequencing

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

Identity
Personal
Objects
Families of objects
Digital assets
Multifactor Authentication
Refugee tracking
Education & badging
Purchase & review tracking
Employer & Employee reviews

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

Payments
Micropayments (apps, 402)
Business-to-Business international remittance
Tax filing & collection
Rethinking wallets & banks

Consumer
Digital rewards
Uber, AirBNB, Apple Pay
P2P selling, craigslist
Cross company, brand, loyalty tracking

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

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When is blockchain relevant?

Answering a few questions can determine if blockchain

is appropriate

Is this a business process that crosses trust boundaries?

Do multiple parties manipulate the same data?

Are there any intermediaries that control the single source of the truth?

Does the process involve low-value, manual verification steps?

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Blockchain for Transparency and Accountability

Problems:
- Tax evasion
- Invoice multiplicity

Solution:
- Triple Entry Accounting on the blockchain
- Single version of the truth for invoicing
- Remove transactional role of auditing
- Enable real time auditing

Challenges:
- Regulation
- Technology Complexity
- Mass adoption

Example: Singapore fighting invoice fraud of traders with banks

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Who is using blockchain?

Singapore – Project Ubin

- Strategic industry wide project to explore the Use of blockchain to decentralize inter-bank payment and settlements with liquidity savings mechanisms

- The three software models developed are amongst the first in the world to implement decentralised netting of payments in a manner that preserves transactional privacy

- Phase 1 Build a domestic digital currency
- Phase 2 Deploy an interbank payments solution

Blockchain Platforms

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