

BLOCKCHAIN AND CRYPTOCURRENCY 101 FOR BUSINESS LAWYERS

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Presentation Outline

- I. Blockchains
- II. Cryptocurrencies
- III. Tokens and Initial Coin Offerings

SECTION I

BLOCKCHAINS

I. BLOCKCHAINS

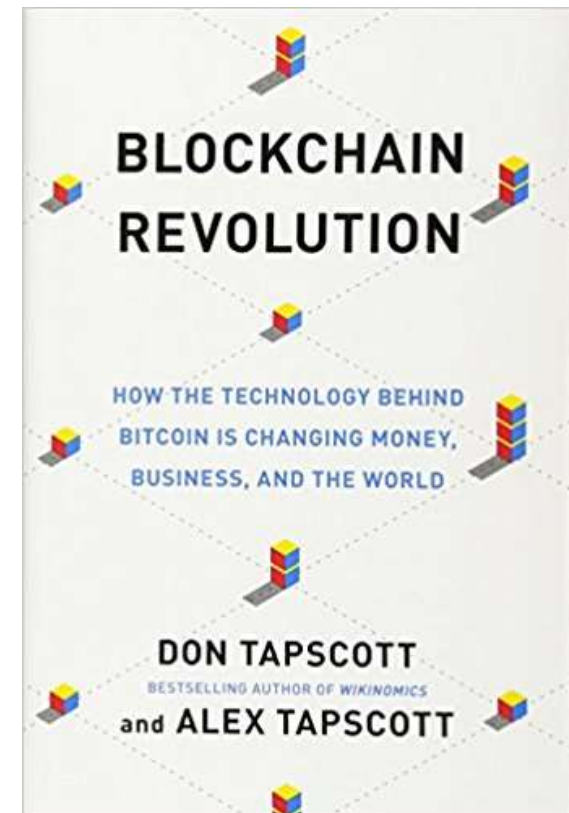


I. BLOCKCHAINS

What is Blockchain?

“The blockchain is an incorruptible ledger of economic transactions that can be programmed to record not just financial transactions but virtually anything of value.”

- Don & Alex Tapscott, Blockchain Revolution (2016).



I. BLOCKCHAINS

What is Blockchain?

- A distributed ledger of shared digital records
- Saved in a chain of concatenated blocks (i.e. each block contains cumulative records which are interconnected so that each subsequent block contains a cryptographic hash or signature of the previous block)
- Spread across multiple nodes in the networks

I. BLOCKCHAINS

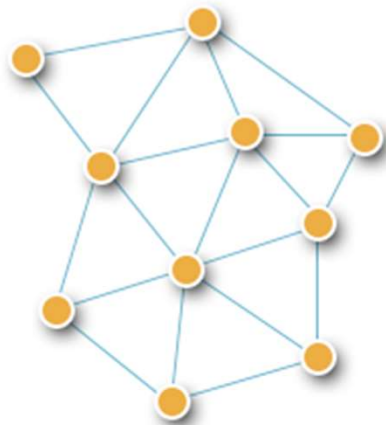
Main Problems it Solves

- The primary problems blockchain solves with regard to distributed computing include
 - The Byzantine General's Problem
 - The Double-Spend Problem
- These problems are solved through consensus mechanisms that
 - Create and ensure trust in the network
 - Ignore any malicious actors within the network

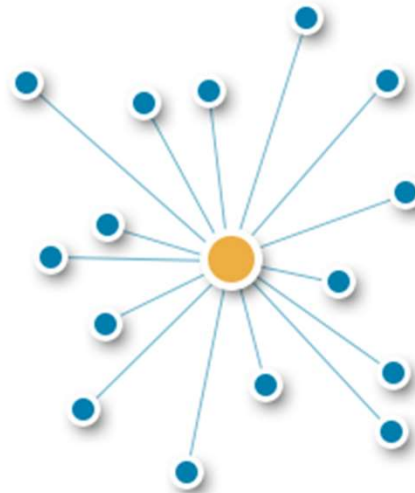
I. BLOCKCHAINS

Centralized v. Decentralized v. Distributed

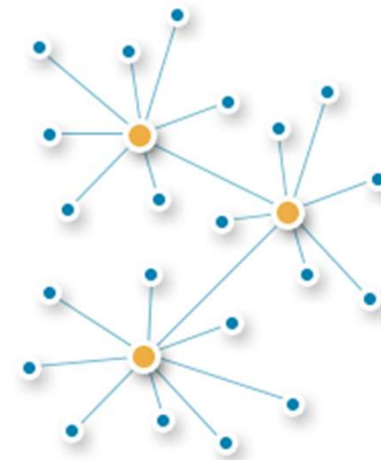
Distributed



Centralized

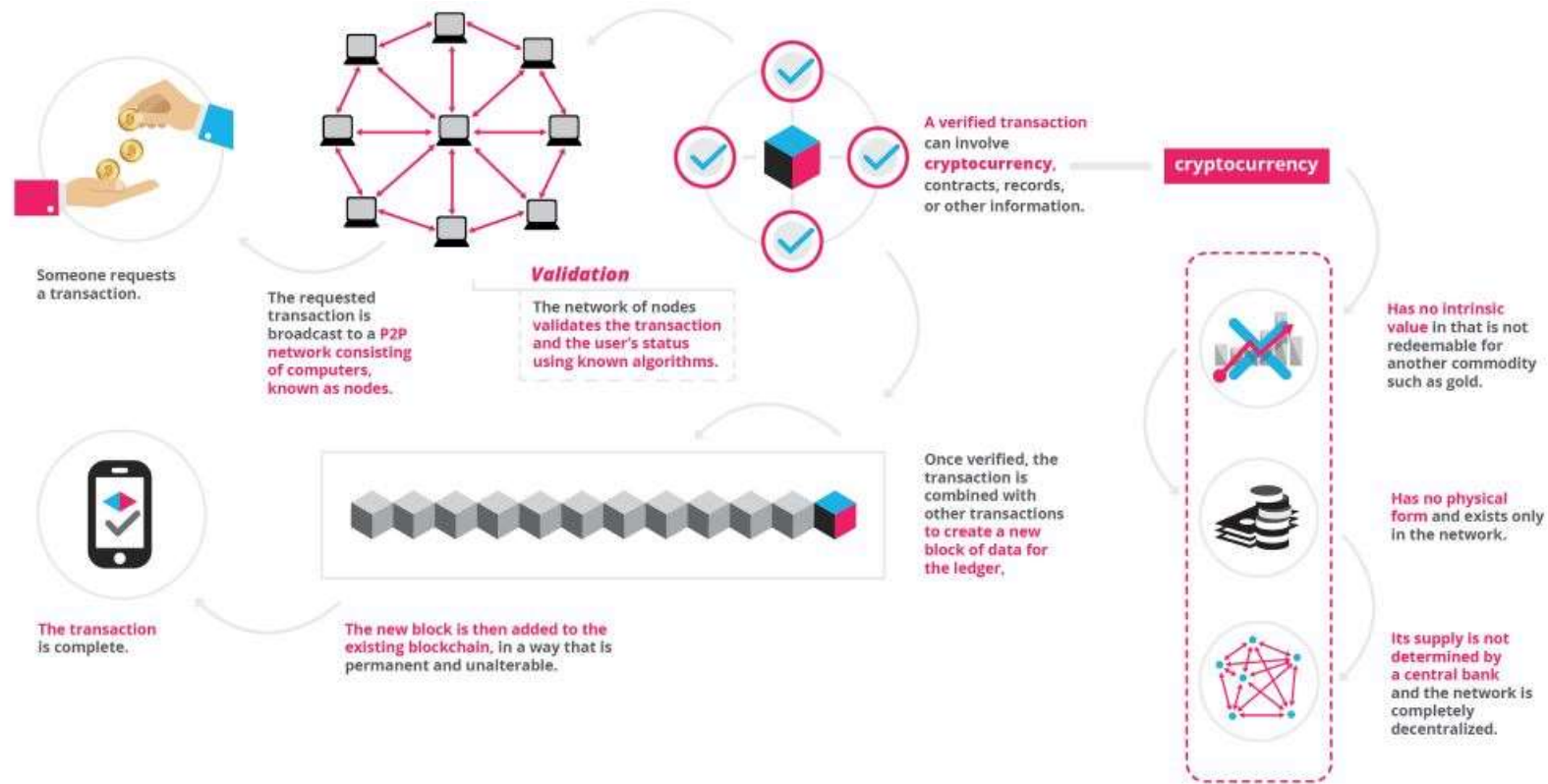


Decentralized



I. BLOKCHAINS

Simplified Transaction

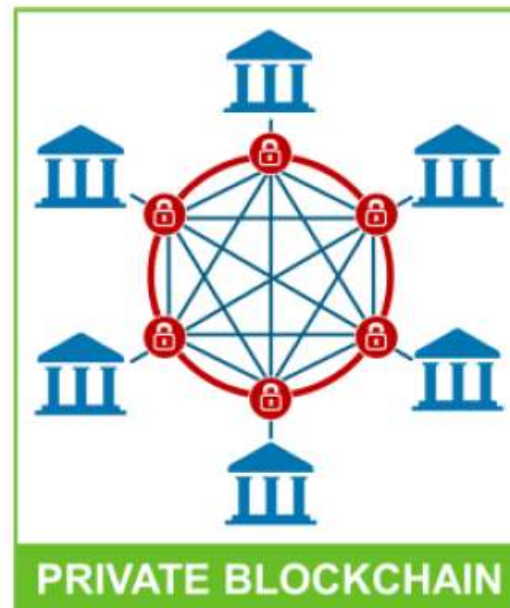
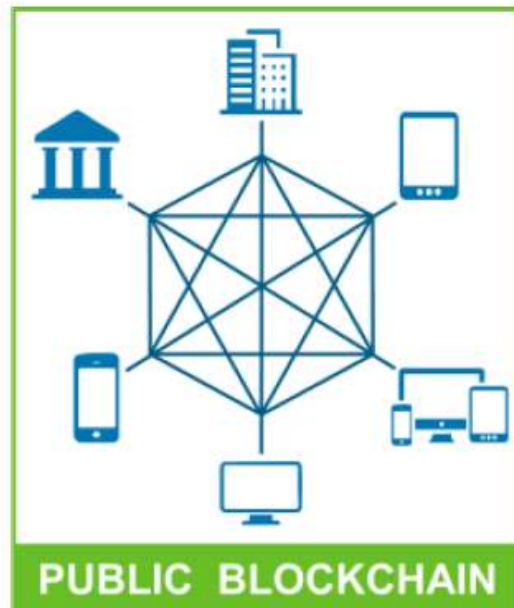


Source: <https://medium.com/@Grigorkh/what-is-blockchain-f22531f92787>

I. BLOCKCHAINS

Public v. Private Blockchains

Public | VS private Blockchain



Source: https://www.sc.com/fightingfinancialcrime/av/SCB_Fighting_Financial_Crime_Deep_dive_Blockchain_August_2017.pdf

I. BLOCKCHAINS

Governance

- Non-Permissioned
 - Anyone can create an address and interact with the network
 - Participants are not known
 - Requires strong value incentives to participants to weed out malicious actors
- Permissioned
 - Participants are vetted by the entity running the network
 - Participants are known
 - Conduct is governed by established rules
- Hybrid
 - Contains a combination of features of non-permissioned and permissioned blockchains

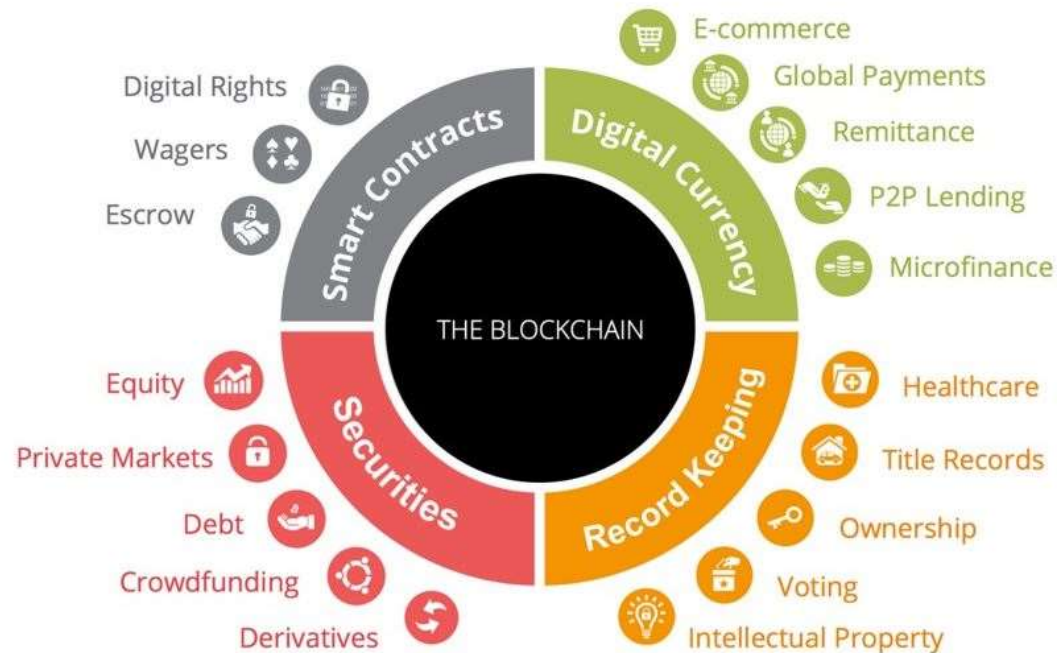
I. BLOCKCHAINS

Selling Points

- Cost and Efficiency
 - Removal of Intermediaries
 - Reduced Transaction Costs
- Real Time Processing
 - Availability of Transparent and Real Time Data
 - Near Real Time Processing
- Data Integrity
 - Immutable Transparent Records
 - Audit Trail of All Transactions Processed
- Robustness
 - Not Controlled by a Single Entity
 - No Single Point of Failure

I. BLOCKCHAINS

Selected Use Cases



Source: BTCS.com

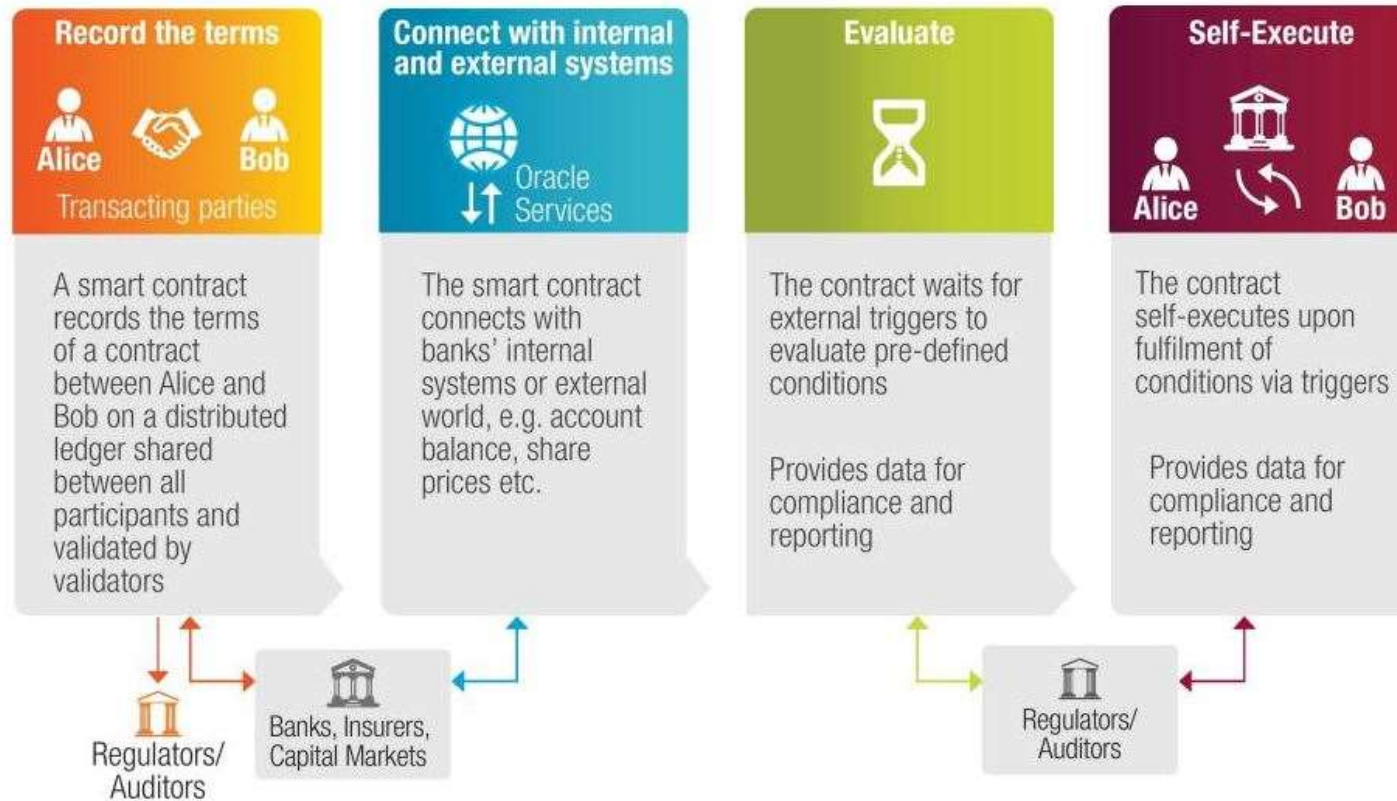
I. BLOCKCHAINS

Smart Contracts

- An important blockchain-related concept
- In the blockchain realm, smart contracts do not refer to legal contracts in the traditional sense.
- A smart contract allows for the enforcement of some or all of the terms set forth in a transaction using computer code that is locked into the blockchain.
- In sum, smart contract code is decentralized software that allows the automation of commercial transactions.

I. BLOCKCHAINS

Smart Contracts (Cont.)



I. BLOCKCHAINS

Smart Contracts (Cont.)

Why do we Need Smart Contracts?



SECTION II

CRYPTOCURRENCIES

II. CRYPTOCURRENCIES

Where it All Started

- Bitcoin is the first decentralized digital currency that does not rely on a central government authority for its backing.
- Bitcoin is a “scarce asset”
 - Created through digital mining process
 - Finite number – up to 21 million
- The Bitcoin blockchain is public and non-permissioned, i.e. anyone may participate in it.



II. CRYPTOCURRENCIES

Where it All Started (Cont.)

- “Bitcoin: A Peer to Peer Electronic Cash System” Whitepaper, Satoshi Nakamoto, 2008
 - No reliance on trust
 - Peer to Peer Network
 - Proof of Work Consensus Mechanism
 - Public history of transactions
 - Nodes vote with CPU computing power
 - Rules and incentives enforced through consensus mechanism



II. CRYPTOCURRENCIES

Bitcoin

- The Bitcoin blockchain uses a proof-of-work consensus mechanism
- Proof-of-work involves a race to solve an arbitrarily difficult mathematical problem
- As an incentive, the first node that solves the problem gets rewarded with newly created bitcoin
- This is the “mining” concept.



II. CRYPTOCURRENCIES Proliferation

- Because blockchains upon which cryptocurrencies are built are open-source platforms, a new cryptocurrency may be created by diverging from an established blockchain – creation of a fork.
- This relative ease has led to the proliferation of new cryptocurrencies beyond Bitcoin and Ether, the most popular ones.



II. CRYPTOCURRENCES In Summary ...



SECTION III

TOKENS AND INITIAL COIN OFFERINGS

III. TOKENS AND INITIAL COIN OFFERINGS

- Relatively new and controversial fundraising method through which virtual tokens or coins are created and distributed using blockchain technology.
- Tokens may be denominated in fiat currency or virtual currency (e.g. bitcoin or ether)
- After issuance, tokens may be resold in secondary markets
- If virtual currency (e.g. bitcoin or ether) is used to acquire tokens, the tokens have market value independent of that virtual currency.

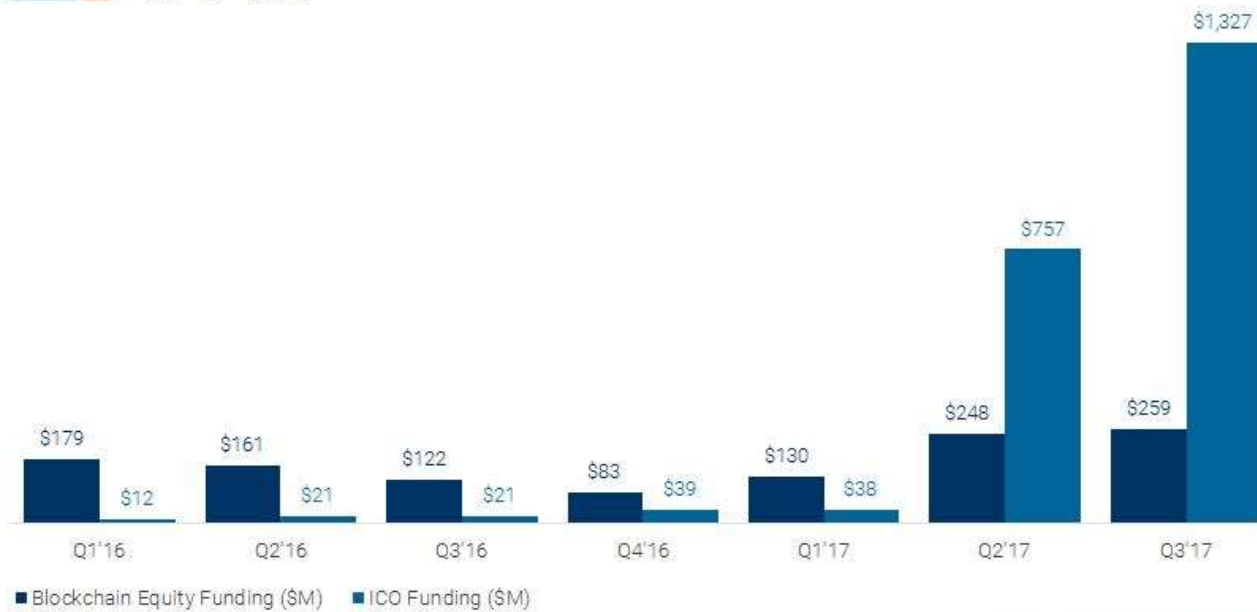
III. TOKENS AND INITIAL COIN OFFERINGS

Recent Uptick in ICO Deals



Blockchain equity funding vs. ICO funding

Q1'16 - Q3'17



Sources: CB Insights, TokenData, CoinSchedule.



III. TOKENS AND INITIAL COIN OFFERINGS

Types of Tokens

“Securities Tokens”

- When capital raised from ICO is used to fund development of the network.
- Network is not functional.
- Provides token buyer an interest in the project analogous to an membership interest in an LLC, partnership, etc.

“Utility Tokens”

- When a token acquired as part of an ICO is intended to be used to access or use the network.
- Network is fully functional.
- Derives value primarily from consumptive use and may be analogized to a token at an arcade, a gift card, or “participation interest in book of the month club.”

III. TOKENS AND INITIAL COIN OFFERINGS

Risks

- Case-by-Case Enforcement by the SEC in the U.S.
- Murky International Landscape
- Informational Asymmetries between Issuers and Investors
- Risk of Enterprise Failure due to Relative Infancy of the Technology
- Potential for Fraudulent ICOs by Unscrupulous Promoters
- Overcapitalization in Successful ICOs
- Other Non-Securities Regulatory Issues
 - Federal Money Services Laws
 - Federal (and State) Tax Laws
 - Federal Commodities Regulations
 - State Blue Sky Laws

III. TOKENS AND INITIAL COIN OFFERINGS

The DAO Investigation Report

- The Decentralized Autonomous Organization (the “DAO”) is a platform created by Slock.It, a German entity.
- The DAO was a crowdsource venture capital platform
- The DAO operated using a “smart contract” on the Ethereum blockchain.
- The DAO operated like a venture fund where tokens were sold in exchange for ether which was then pooled.
- Token holders were permitted to vote on a menu of investments to which the DAO would apply portions of the pooled funds.
- Token holders were also to share in the profits from the investments.
- The DAO ICO was unregistered and no exemption was sought.

III. TOKENS AND INITIAL COIN OFFERINGS

The DAO Investigation Report (Cont.)

- According to SEC, definition of “security” is flexible and adaptable
- The SEC focuses on substance (and not the form) of the overriding economic realities
- In analyzing the DAO tokens, the SEC invoked the four-pronged “Howey test” under which an instrument is a security if it relates to:
 - (i) an investment of money
 - (ii) in a common enterprise
 - (iii) with a reasonable expectation of profits
 - (iv) to be derived from the entrepreneurial and managerial efforts of others
- The SEC concluded that the DAO Tokens were securities subject to its regulation.

III. TOKENS AND INITIAL COIN OFFERINGS

The SAFT Framework

- The persistent regulatory uncertainty has spawned efforts aimed at creating regulatorily compliant ICOs and tokens.
- One such effort has yielded the Simple Agreement for Future Tokens (SAFT)
- In the SAFT model, a clear distinction is made between “pre-functional utility tokens” and “fully functional utility tokens”

Pre-Functional “Utility Tokens”	Fully Functional “Utility Tokens”
Tokens issued before a network is operational Motivation – Ability to profit once the token is re-sold after the network is functional	Tokens issued after a network is fully operational Motivation – Ability to access and use the fully functional network

III. TOKENS AND INITIAL COIN OFFERINGS

The SAFT Framework (Cont.)

- The SAFT itself is a security offered to U.S. accredited investors for pre-functional utility tokens.
- Once the platform successfully launches, and while the SAFT is in effect, the company is obligated to issue the now fully functional utility tokens to the SAFT holder.
- Proponents of the SAFT model believe that there is a strong argument that the now fully functional utility tokens are not securities and thus not subject to SEC regulation.
- They further argue that the SAFT model addresses many securities, money transmitter, tax, and policy concerns based on the current legal landscape.
- However, the SAFT has yet to be scrutinized by a U.S. court or regulatory agency.

III. TOKENS AND INITIAL COIN OFFERINGS

The SAFT Framework (Cont.)

- Criticisms of the SAFT Framework
 - The presumptive treatment of pre-functional utility tokens as securities and fully-functional utility tokens as non-securities ignores the fact and circumstances inquiry.
 - The risk that token issuers will emphasize the profit-generating potential in offerings to accredited investors may have some downstream effects affecting fully-functional tokens.
 - It may create a class of early investors incentivized to flip holdings instead of supporting long-term growth of the enterprise thus potentially fueling speculation.

III. TOKENS AND INITIAL COIN OFFERINGS

Selected SEC Enforcement Actions

- In an August 2017 filing, the SEC alleged that, in mid-2017, Zaslavskiy and his companies committed fraud by selling unregistered securities in ICOs for digital coins that did not actually exist.
- REcoin was advertised as “The First Ever Cryptocurrency Backed by Real Estate” and claimed to have a team of professionals prepared to invest the raised funds in real estate (and that investors could expect sizeable returns).
- The SEC alleged that no such team of professionals existed nor had any team been consulted and that REcoin misrepresented that it had raised between \$2 million and \$4 million instead of approximately \$300,000.
- The SEC alleged that, while DRC World claimed to invest in diamonds, no such investments were made nor had DRC World engaged in any operations.

III. TOKENS AND INITIAL COIN OFFERINGS

Selected SEC Enforcement Actions (Cont.)

- This December 2017 action marks the first enforcement action by the SEC's new cyber unit.
- SEC froze assets of PlexCorps, which it accused of fraudulently selling up to \$15 million in tokens.
- SEC alleged that PlexCorps promised massive returns (1,354% in one month) it was unlikely to deliver while advertising a non-existent team of experts and obscuring its founder past financial crimes.
- The complaint seeks permanent injunctions, disgorgement plus interest and penalties.

III. TOKENS AND INITIAL COIN OFFERINGS

Selected SEC Enforcement Actions (Cont.)

- Cease and Desist ordered issued on December 11, 2017.
- Munchee offered and sold tokens to the general public seeking to raise funds so that it could improve an existing app, run its business (hire employees, etc.), and recruit users to the app.
- Token holders were to profit from the appreciation in the value of the MUN token arising from Munchee's efforts in creating the MUN ecosystem
- Munchee claimed to have undertaken Howey analysis in view of the DAO Report and determined that the MUN token were not securities.
- The SEC determined otherwise, concluding that MUN tokens were securities—purchasers expected to profit from the efforts of Munchee and its agents.

III. TOKENS AND INITIAL COIN OFFERINGS

December 2017 Statement from SEC Chair

- Statement published December 11, 2017.
- ICOs (whether securities or not) can be effective ways for fundraising.
- Replacing a traditional ledger with a distributed ledger may change the form of the transaction but not substance.
- Many distinctions made between securities and “utility tokens” elevate form over substance.
- Review closely DAO Report and enforcement actions.



QUESTIONS?

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