PitchBook

A breakdown of initial coin offerings

Analysis of ICOs, their recent boom, and long-term viability

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Credits & Contact

Analysis
EVAN B. MORRIS Analyst

Contact PitchBook
pitchbook.com

RESEARCH
reports@pitchbook.com

EDITORIAL
editorial@pitchbook.com

SALES
sales@pitchbook.com

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Introduction

Launching Bitcoin, Satoshi Nakamoto's pseudonymous 2009 paper mapped out a protocol for a peer-to-peer network to validate transactions on a shared public ledger known as the blockchain. For the first time, individuals could make payments online that bypassed traditional gatekeepers such as banks and processors. Building on Satoshi's legacy and technology, entrepreneurs have begun to use derivative technology to bypass traditional capital markets institutions. Over the last few months, a new form of raising capital via issuing a blockchain-based token or coin has burst into the public consciousness. These are called ICOs (initial coin offerings) or token sales. Companies that may have traditionally gone to angel investors or VC firms for funding have another, unregulated option. Founding teams have raised tens and hundreds of millions of dollars on the backs of whitepapers describing their idea and outlining the design of their custom smart contract token built using blockchain technology. Research firm Smith & Crown has reported that companies have now raised over $1 billion via this method as of July 7. This is on pace to surpass all historical VC investment in the blockchain space by year end, which stands at $1.7 billion since 2010. In the eight years since the debut of Bitcoin, only Coinbase, Circle and 21 have raised more than $100 million from VC investors, all across multiple rounds of venture funding.

Much debate remains over the many legal and ethical issues raised by this practice. However, given limited rumblings of regulatory action and increasing sophistication of the crypto space, the phenomena will continue and likely accelerate through the back half of the year. Our view is that while many of these companies have the ability to take blockchain to a broader range of use cases, and that the lack of scrutiny has provided a great sandbox for innovation, this same lack of oversight and scrutiny from sophisticated institutions and regulators will lead to many failed projects and perhaps outright fraud. Given the historical volatility of cryptocurrencies, buyers of these tokens are in practice well aware of the risk of loss. However, the massive potential of blockchain technology to transform many high-friction rentier business models is worth the risk.

What Is an ICO?

Entrepreneurs have turned to this new unregulated funding mechanism to sponsor an evolving range of blockchain-related projects. Building on the success of Bitcoin and the more recent Ethereum protocols, entrepreneurs have tried to replicate this success by building bespoke distributed protocols with their own features. Many of the first examples of what could be called ICOs were various flavors of Bitcoin knockoff cryptocurrencies with varying specs. With the advent of Ethereum, for the first time tokenized smart contracts could be designed to do more than just simple transactions. Many of these projects have taken the form of a distributed autonomous organization (DAO). The organizations automate certain aspects of decisionmaking by allowing stakeholders to exercise governance rights.

Hash: a mathematical algorithm that converts data of any length to a string (of characters) of a fixed length. The output will always be the same for a given input, but the input can only be calculated through trial and error.

See PitchBook's inaugural report on bitcoin & blockchain for further details ***here****.*

Many investors who generated a massive return from the increase in crypto prices have chosen to recycle their gains into the latest projects driven by fear of missing out. The mechanics of an ICO involve first setting up a website and whitepaper with information about the business model and founding team. Details in the whitepaper will include the problem the platform is trying to solve, management structure, plans for development and allocation of resources. Individuals deposit an established cryptocurrency such as Ethereum, Bitcoin, Waves or others and receive a private key (in the form of a cryptographic hash) for the new token(s). Since the token is new, it may take some time before wallet software supports the new digital asset.

Since "investments" in the US and other countries are heavily regulated, ICOs typically go out of their way to portray themselves as contributions and donations. The Ethereum foundation, which issued perhaps the most famous ICO in 2015, characterized the event as a "donation." A recent legal analysis of token sales distributed by Coinbase referenced a certain definition of a security, which was established by the US Supreme Court case *SEC v. Howey*. The case created a Howey Test with three criteria to be met in order to be considered a security:

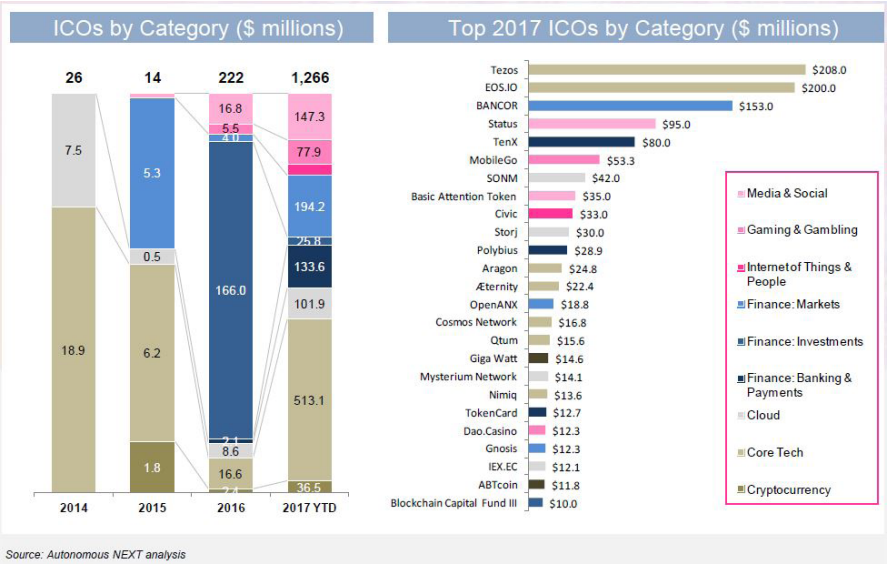
1. An investment of money

2. in a common enterprise

3. with an expectation of profits predominantly from the efforts of others.

The decentralized nature of the crypto ecosystem allows the industry to maximally leverage regulatory arbitrage in order to deter scrutiny of any legal basis. Many players take advantage of laws governing legal nonprofit associations in Switzerland, which allows them the same legal standing as established entities such as FIFA, the global governing body of association football (soccer). This has led to Switzerland becoming a hub for blockchain entrepreneurial activity. Under this guise, associations can form token-backed sub-entities in order to carry out development of specific crypto projects which aim to ultimately generate revenue. In fact, this has also led to the recently formed Crypto Valley Association formed in the canton of Zug.

Industry analysts have lumped in token sales and ICOs. In the former, entities issue a tradable token typically using the ERC20 standard which makes them compatible with other dapps (decentralized applications). The former include tradable token sales as well as other crowdsale projects facilitated using cryptocurrencies. Ethereum first enabled the development of smart contracts using its turing-complete architecture. Turing-complete means that the Ethereum network acts as a distributed virtual machine with the ability to execute any application that a typical computer would using its distributed network. Some of the most successful token sales have utilized the Ethereum blockchain to execute their smart contract tokens.



Source: Autonomous NEXT analysis

Outlook

While there are still fortunes to be made in certain ICO-backed platforms, investors should be wary of the risks involved. Many projects may be unable to execute on their ambitious business models in spite of raising millions in funding. Further, many of the most successful ICOs have tokens that unlock value within a distributed platform. Thus, the value of the token is inherently predicated on people actually using the platform as a product. For example, Basic Attention Tokens aim to replace traditional advertising business models by allowing people to earn tokens by watching ads or spending tokens to skip them. Other tokenized platforms aim to fix the shortcomings of crypto forebears. An example of this would be Tezos, which built a self-amending crypto ledger whereby the only rules are that the rules can change as the entire community decides on proposed shifts, enabling the blockchain to fix itself or adapt to the needs of the token holders.

Ethereum has experienced a massive run-up (and subsequent fall) in price on the back of the ICO craze. Buying Ethereum remains a leveraged play on ICOs in general since so many utilize the protocol for funding and execution of smart contracts. Other tokens have similarly attempted to be a leveraged play on Ethereum, adding financial bells and whistles. Bancor, which raised $153 million on June 12, has a built-in exchange function which allow users to create custom baskets of other crypto assets. The foundation claims to revolutionize central banking, but in practice the token is simply pegged to Ethereum.

Not all of the most promising blockchain startups have chosen to take advantage of the ICO craze. Numerai will launch a quantitative hedge fund that distributes profits to data scientist collaborators via tokens based on how well each contributor's algorithm performs. According to a press release in June, the platform released 1.2 million Numeraire tokens directly to a network of potential collaborators rather than via a token sale. Individuals can stake their distribution on their algorithms, and the best performers will be renumerated and incorporated into a longer-term fund.

In the future, the multisided platform economy could be run via custom blockchain applications. In an alternate universe, Uber could—rather than subsidizing rides with private capital—issue an ICO to hail rides and allow drivers to mine tokens by accepting them. Drivers and riders alike would have a greater sense of ownership if they held on to some of the tokens, which in turn would increase in value if the platform flourished. This future may not be far off. There's an obvious analogy between cryptocurrencies today and the dot-com bubble of the late 90s. It is important to remember that many business models that sprung up in the boom and fell in the bust have been profitably reproduced in present day.

Notable Recent ICOs

ICO: Bancor
Date: **June 12, 2017**
Amount raised: **$153M**

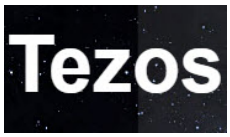
The Bprotocol Foundation designed the Bancor protocol in a whitepaper which describes a decentralized liquid method for the exchange of any compatible ERC20 crypto asset. The entity raised $153 million for the Bancor Network Token (BNT), a token which uses this protocol to provide liquidity. This 40-line smart contract's sole function is to use reserves to make a market in the tokens by using the proceeds of the token sale to provide a price floor. Much of the successful marketing of the project stems from the strength of the project's team, which counts among its advisors several successful entrepreneurs and prominent VCs.

ICO: Aragon
Date: **May 17, 2017**
Amount raised: **$25M**

The entity has designed a governance protocol to create DAOs. The token enables entities to issue their own tokenized organizations with built-in features such as arbitration supported by the network. The platform also allows for decentralized organizations to assign roles, issue tokens as well as manage employees and vendors.

ICO: Civic
Date: **June 21-28, 2017**
Amount raised: **$33M**

The platform aims to create a decentralized identity verification network. The organization sold the Civic token via a recent ICO that participants on the network will use as incentive to transact in these services. The platform's use of blockchain will enable fewer frictions, greater security and lower cost than existing centralized systems. Potential use cases include medical health records and banking know-your-customer (KYC) compliance. The project is led by CEO Vinny Lingham, a serial entrepreneur and investor who sold his previous company Gyft to First Data (NYSE: FDC) for $100 million in 2014.



ICO: Tezos
Date: **July 1-14, 2017**
Amount raised: **$232M**

Tezos presents itself as a generic and self-amending crypto-ledger. The self-governing platform aims to solve some of the scaling problems experienced by legacy cryptocurrencies. By dynamically amending the rules of the game, members of the network can submit whatever changes will maximize the value of the collective crypto holdings. This incentive structure will differ from Ethereum, which popularly enables the creation of app coins, the topic of this report. The architects of Tezos hope that rather than facilitate the creation of third-party distributed applications, Tezos will incorporate these features into the primary chain. The cryptocurrency also shares some of the privacy features of Zcash with a single zero-knowledge-proof sidechain.

ICO: Block.One
Date: **June 26-30*, 2017**
Amount raised in ETH/BTH: **$185M**

*Note: This was a 20% five-day sale. 200,000,000 tokens were distributed, which raised $185 million, making it the most successful ICO in history. 70% will be split evenly into 350 consecutive 23-hour periods of 2,000,000 EOS tokens each, which started on July 1. 10% of EOS tokens are reserved for Block.one and cannot be traded or transferred.

The company has developed the EOS platform, an enterprise blockchain framework which will provide higher throughput for decentralized organizations. Block.one claims that their platform can process millions of transactions per second. The company's operating system will allow for decentralized organizations to achieve greater scale and technical performance. Co-founder and CTO Daniel Larimer previously co-founded BitShares and Steemit and has been credited with inventing the concept of a DAO and proof of stake. The EOS blockchain is a fully distributed, self-funding and self-governing network, all on blockchain. New tokens (max 5% annually) are created via smart contracts to fund growth and operations. As of writing, EOS tokens have appreciated to a total market cap of $562 million to become the 11th most valuable cryptocurrency network just ahead of Larimer's previous projects Bitshares and Steem, which rank 12th and 14th, respectively.