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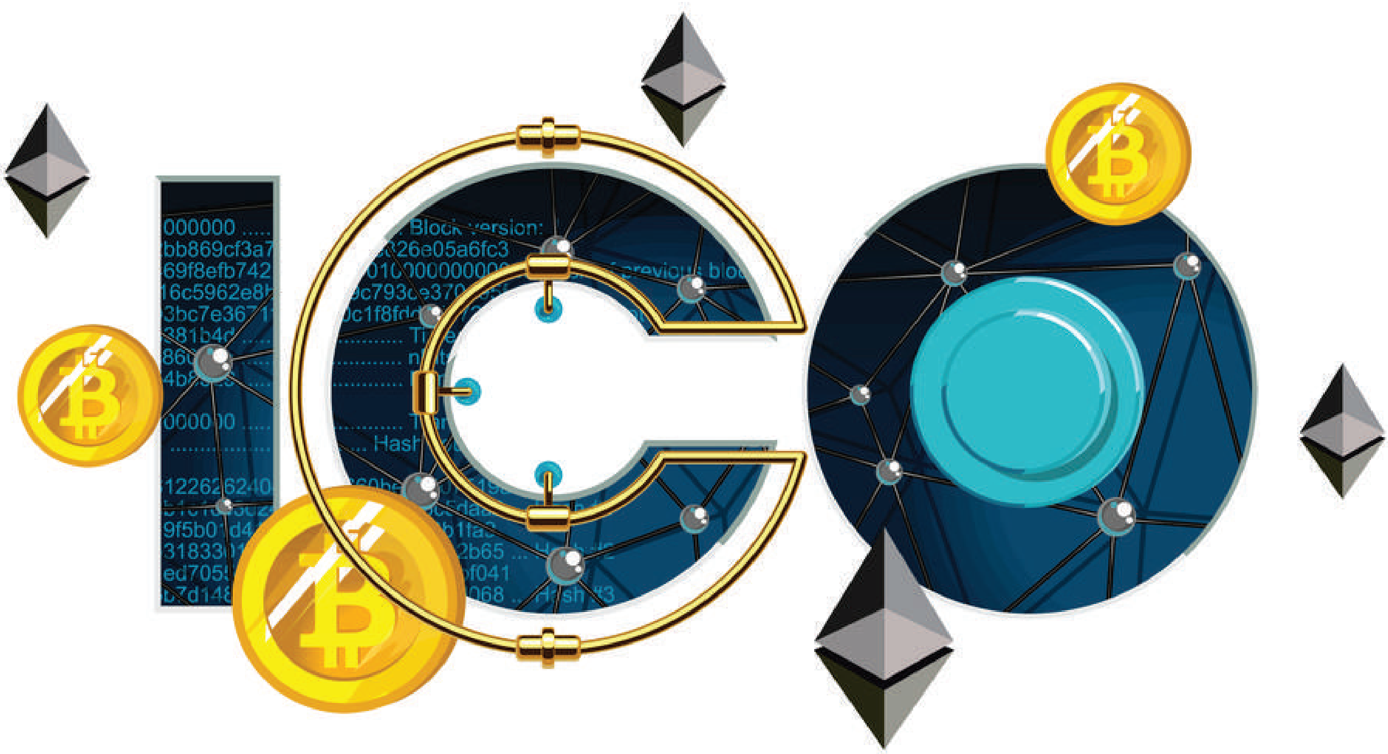

ICOs – The New IPOs?

How to fund innovation
in the crypto age

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What is an ICO?

Initial Coin Offerings (ICOs) are a relatively new way to fund start-ups and projects. Similar to an IPO, an ICO is a way for a start-up or an established company to raise capital, and a vehicle of investment for potential investors. In this paper, we will focus on the possibilities to use ICOs to fund Blockchain or cryptocurrency-based start-ups and projects.

Usually, capital and "shares" in cryptocurrency start-ups and projects are represented by tokens. In an ICO, the companies seeking funding sell their cryptocurrency tokens in exchange for financial investment or other contributions; the funding is executed using Bitcoin or other cryptocurrencies.

Companies ranging from real estate brokers to digital banks are looking to raise money through ICOs, and the only prerequisite is to have a cryptocurrency and a token as an integral part of the product.

ICOs are usually performed at an early stage of operations to finance the initiation, running expenses, and costs from the beginning of the project until go-live. ICOs can also be used in later stages of the start-up lifecycle as an alternative to VC funding for financing the company's growth ambitions.

Like in IPOs, ICO investors are generally motivated by the potential future success of the start-up and an increase in value of the tokens issued.

Currently, ICOs raise large investments within minutes, based on often very limited information transparency. It cannot be emphasized enough that the only way to determine the value of an ICO is to assess the value of the underlying tokens. Based on the limited information usually available, an informed investment is not always possible. Recent developments show that the market is becoming aware of this gap and is supplying potential investors with better information in cooperation with professional services companies.

A token is either a gadget for user authorization or a fixed series of characters to identify a user, such as an application programming interface (API) key.

How do ICOs work?

Since there are currently no explicit regulatory boundaries, there are no binding rules on how to prepare and execute ICOs.

Nevertheless, we have seen the majority of the ICOs follow a sequenced approach in four phases:

Figure 1: Stages of ICOs

Stage A
Pre-announcement

Description

The first step for projects and start-ups is to spread the word about the ICO to attract as many potential investors as possible. Usually, announcements are made on relevant cryptocurrency forums (Bitcointalk, Reddit, etc.). The announcement contains an executive summary of the project goals and ambitions. Additional information, such as notable and unique features of the project as well as the acting team members and their previous experience and track record, are helpful to attract potential investors. The team then receives and analyzes feedback to gauge interest and to tweak and adjust the business model. The first stage ends with the final business model and a written, detailed offer on the ICO.

Stage B
Offer

The offer lays out the essential terms of the ICO and covers all the nuances of the project, specifies the desired investment to be targeted as well as deadline for the ICO. The token that is available as part of the ICO is specified in each offer. After selecting a financial instrument (the token), the offer covers all the rights that the token possesses. After signing the offer, the start date for the sale of tokens is announced, and the issuing company carries out an active PR campaign.

Stage C
Marketing Campaign

Since the start-up conducting the ICO is usually not well known, the marketing campaign plays an important role in a successful ICO. Specialized agencies may be hired to present at various conferences, conduct road shows, etc. The campaign tends to last up to a month on average, with the target audience being institutional and smaller investors. Participants in crowdfunding programs tend to be the main segment. At the end of the marketing campaign, the process of selling and buying tokens begins.

Stage D
Token Sale

After the marketing phase, the ICO is triggered and the respective tokens are released. Depending on the start-up strategy, tokens are distributed immediately and free for trading or released after a product or platform was initiated in order to ensure a return on investment for ICO participants.

ERC20 – the current token standard

Most ICOs are currently based on Ethereum and use the ERC20 standard, which has emerged as the de-facto industry standard for issuing tokens.

The ERC20 standard makes the assets more easily interchangeable and ensures they can work with DApps adhering to the same standard. Moreover, the introduction of this standard allows for the tokenization of other features, including voting rights.

History of ICOs[1]

Although public perception of Initial Coin Offerings increased dramatically toward the end of 2016, the first crowdsales and coin distributions started much earlier, in 2013 and 2014.

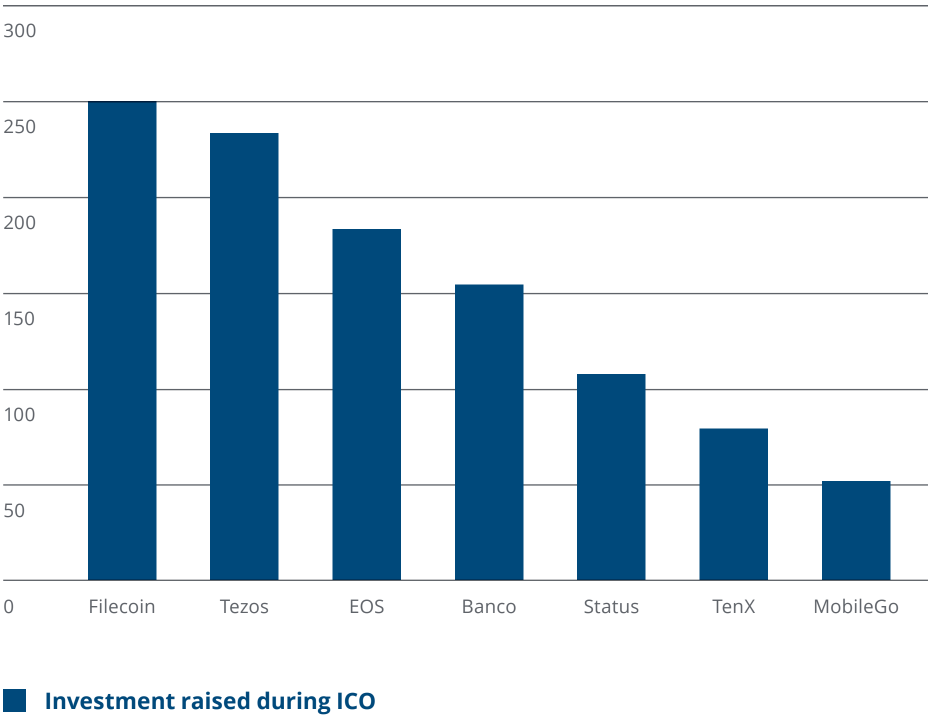
One of the first cryptocurrency crowdsale projects was Mastercoin (now renamed to Omni), which gathered approx. $600,000. In 2015, Ethereum, now the second-largest cryptocurrency by market cap, accumulated total investment of over $15 million.

Since then, investment in ICOs has increased and the infrastructures in which ICOs operate have improved. Development teams now utilize social media platforms, such as forums (bitcointalk.org), messaging websites (Twitter) and group working sites (Slack, Telegram), to raise awareness for their projects, communicate roadmaps and use cases, and to get in touch with potential investors directly. Along with the expansion of cryptocurrency use cases and adherent start-ups, media attention has gone up too, accelerating the growth of ICO investments.

In 2017, ICOs reached a new peak in quantity and quality. Since January, over $1.2 billion have been raised through ICOs distributing altcoins to investors and building up new use cases and products based on Blockchain technologies. Even traditional venture capitalists and celebrity investors such as boxer Floyd Mayweather and self-made billionaire Mark Cuban have entered the cryptocurrency market and invested in promising ICOs.

[1] https://www.smithandcrown.com/what-is-an-ico/
https://www.smithandcrown.com/icos-crowdsale-history/
https://themerkle.com/5-of-the-most-successful-cryptocurrency-icos-to-date/
https://github.com/Scanate/UltimateICOCalendar
https://icotracker.net/
http://icorating.com
https://www.fastcompany.com/40446051/inside-the-ico-bubble-why-initial-coin-offerings-have-raised-more-than-1-billion-since-january

The year 2017 (to September) has shown many high-investment ICOs.



Filecoin raised over $250 million over a period of two weeks, mostly through accredited investors ($200m) and venture capital firms ($50m). Its aim is to build up a decentralized storage network that employs the peer-to-peer Inter Planetary File System (IPFS) to store and secure data on its blockchain. Its currency (called Filecoin) can be earned by hosting files that lie on the unused storage of private hard drives. In July, Tezos raised over $232 million, building up a secure and future-proof smart contract system that is, in comparison to many other blockchains, free of any hard fork risks due to a built-in consensus mechanism. EOS raised an investment of $183 million and plans to provide blockchain solutions that offer efficiency, security, and data integrity, while Banco raised $153m and seeks to build a decentralized exchange ecosystem that will enable holders of digital assets to trade peer-to-peer with ease and with little risk to the security of their assets.

Still, success is not only defined by market cap raised, but also by how the company develops after its crowdfunding phase, how it interacts with its stakeholders, and what position it takes in the cryptocurrency market. One key measurement here is the return of investment within a given timeframe.

Key considerations for successful ICOs[2]

[2] https://cointelegraph.com/explained/how-to-launch-a-successful-ico-explained
https://techcrunch.com/2017/05/24/how-to-stage-an-ico-and-other-related-questions-you-might-like-answered/
https://flagtheory.com/successful-initial-coin-offering/

To ensure a successful ICO, initiators should take the following key considerations into account:

1. Good match between ICO and business

It is crucial for a business promoting its ICO that the product is directly linked to blockchain technology and that it cannot be substituted by a non-blockchain system, e.g. a simple database. For example, the value of ETH, the tokens released during the Ethereum ICO, is secure because they are required to run DApps in the network. If, on the other hand, the only use for coins is being bought and sold on an exchange, it practically guarantees that their price will crash very soon after the end of the ICO. As such, the campaign is unlikely to meet the expectations of discerning users in the first place. A fundamental problem for any digital token released during an ICO is that it will come under massive speculative pressure as soon as it hits the markets. The only thing which can counteract that and prevent the token from ending up as a gimmick is an equivalent demand for it; and that demand can only be produced by real utility.

2. Building the right team

The practical experience of many successful ICO campaigns shows that the team, the goals, and the protection of investors' interests are the three topics which tend to interest the audience the most. Therefore, they need to be decided and articulated clearly to the audience before the launch of an ICO. From an investor's standpoint, a great team behind the project is one of the most important factors when deciding on contributing to an ICO. Conversely, an unproven, or worse still, an anonymous team is likely to serve as a major red flag and stop people from investing.

3. Sending the right message

From a perspective of communicating the project goals, it is imperative to have a white paper and a roadmap prepared before the launch of an ICO. A white paper usually accompanies an ICO for evidence purposes and outlines the content of the ICO, like a prospectus for an IPO, but with the key difference that white papers are not mandatory documents. The white paper must clearly outline the technical aspects of the product, the problems it intends to solve, and how it is going to solve them. Likewise, the roadmap should list clearly defined and realistically achievable goals and their timeframes. Being able to present a working, tested proof of concept to the audience is better than just having a white paper when preparing for an ICO. Frequent communication with the audience both before and throughout the campaign is important. It will help get more people on board as well as provide feedback, allowing the team to make tweaks while the ICO is underway.

4. Protecting investors' interests

Early-bird discounts for investors are regularly used to incentivize investments, especially at the beginning of an ICO where there is uncertainty about whether the business idea will be accepted by crypto-currency investors. Another convention that has now become a well-respected procedure is to collect all contributions in a multi-signature escrow wallet, with all names of all key holders announced in public. Some of those keys have to be held by people otherwise uninvolved in the project, which serves as an additional guarantee of investors' funds safety. There should also be a process in place for returning funds to their contributors (soft cap), because it is always possible that the ICO will fail to reach its target and trigger a campaign roll-back.

5. Considering an ICO Platform

There are special platforms whose entire purpose is to ease both the process of launching an ICO and investing in one. They work similarly to platforms that aggregate various crowdfunding projects and make it easy for contributors to find the ones they want to invest in. The Waves Platform is one of the largest of these. It allows anyone, for example a young startup, to set up digital tokens in mere minutes and at almost no cost. These tokens can then be listed on Waves' own exchange, where eager investors can find them easily, and companies can secure the necessary funding. This approach can save a lot of money and effort, compared to launching a digital token on your own, which is inevitably associated with high development costs. Admittedly, it gives the company less control over the token's further development, but if it is not the company's main product, then the trade-off may be well worth it.

6. Abiding by the law

Every country has different legal aspects that must be considered when launching an ICO. While some countries have laid out generic guidelines for ICOs, others can range from detailed stipulations to no guidelines at all.

In the US, for example, the most well-known rule is the Howey Test, created by the Supreme Court for determining whether certain transactions qualify as investment contracts. If they do, then those transactions are considered securities and are subject to certain disclosure and registration requirements. However, the SEC and other regulators are engaged and aware of the developments in this market, although they are taking a measured approach. The SEC has not yet taken a public view, put out a paper, or taken an enforcement action in the space.

Similarities and differences between ICOs vs. IPOs vs. crowdfunding

As the names already imply, ICOs and IPOs share the same logic: in both scenarios, the initiators are trying to raise funds and find investors in exchange for a stake in the company. Investors are attracted by potential profits on their investment.

Nevertheless, the most important difference is that ICOs are currently not regulated and are therefore neither controlled nor supervised by regulatory bodies. This lack of regulation on ICOs poses potential risks to initiators and investors alike, but ensures seamless funding that is easy to initiate for exponential ideas or white papers. To give a comprehensive overview, we compared past ICOs to IPOs and crowdfunding along seven key criteria for differentiation:

Seven key criteria for differantiation of ICOs, IPOs and crowdfunding:

	Purpose (investor view)	Return on investment, ownership secondary	Return on investment, ownership and voting power	Realize idea, gain rewards and/or early access
Parties involved	**Initiators**	New business venture with white paper as business concept	Established business with proven assets (e.g. user base)	New business venture with concrete product/ service idea
Parties involved	**Regulators**	Currently unregulated, SEC started first ICO audits	Regulated by financial authorities, e.g. SEC	Restrictions on investors allowed to take part in funding
Parties involved	**Investors**	Supporters expecting return on investment	Institutional and private investors	Supporters expecting rewards and/or early access
Transaction	**Transaction size**	Small to medium size, strongly depending on specific ICO	Large to medium size, depending on exchange market	Small size, suitable for realizing idea or first prototype
Transaction	**Transferability & fees**	High transferability with minimal transaction costs	High transferability, medium to high costs for intermediates/ exchanges	Low transferability due to rewards and/ or access, P2P platform fees might apply
	Risks	High, currently limited investor protection or legal obligations	Medium, depending on exchange market regulations	Medium, limited regulations, but ROI not key purpose

The central purpose of ICOs from an investor's perspective is return on investment (ROI). In most ICOs, tokens do not carry ownership or voting power. This is comparable to preference shareholders in IPOs, who want to maximize ROI instead of shaping the future of a publicly traded company. The Swiss company Lykke was one of the first ICOs where coin holders have equity in the company[3].

IPOs are strictly regulated by national authorities and regional market exchanges, increasing information needs and transaction fees through required intermediaries. Even crowdfunding faces SEC regulations for equity based funding rounds. Therefore, unregulated reward-based crowdfunding is more common by far. Due to their unregulated nature, ICOs carry the risk of collecting cryptocurrencies just to start looking for the next exponential idea. This implies tremendous risks to investors, which we explain in more detail in the next paragraph[4]. The upside lies within the seamless transferability of tokens with minimal transaction fees applied. This also allows for hybrid models, e.g. an ICO combined with crowdfunding, where raised cryptocurrencies can be used directly

> "Both ICOs and IPOs therefore differ greatly from the purpose of crowdfunding, where supporters want to realize a specific idea based on minor rewards or early access to a certain product or service."
>
> **Investopedia**

for tangible products, e.g. cloud storage services[5]. Following up on the largest ICO by raised funds, SEC audited The DAO and characterized the ICO as a security sale. This implies potential future disclosure requirements for ICOs, which imposes a regulatory risk to future initiators[6].

Comparing initiators of ICOs, IPOs, and crowdfunding, ICOs have not needed more than an idea to raise funds. Nevertheless, most successful ICOs offered sufficient white papers with high level technology infrastructure, major achievements and outlooks for the future to attract investors.

[3] https://www.lykke.com/ico#manifesto

[4] Lucas Geiger, "ICOs won't replace venture, they'll be benefit from it", https://venturebeat.com/2017/07/15/icos-wont-replace-venture-theyll-benefit-from-it/

[5] Storj website - https://storj.io/faq.html#headingTwelve

[6] Felix Holtermann, "US-Börsenaufsicht warnt Krypto-Investoren, http://www.handelsblatt.com/finanzen/maerkte/devisen-rohstoffe/regulierung-virtueller-waehrungen-us-boersenaufsicht-warnt-krypto-investoren/20108584.html

Initiators of crowdfunding can often appear more advanced, with first tangible concepts or prototypes in place and seeking funding for the scaling of production. Compared to ICOs and crowdfunding, IPOs need to provide proven assets like a unique user base, intellectual property (IP) in the digital space, or conventional physical assets incorporating IP. Therefore, IPOs look for institutional and private investors to ensure sufficient funding for growth, while still offering certain equity shares. Crowdfunding and ICOs instead focus on a broad community with tiny pieces of investments by private supporters. In other words, anybody could participate in an ICO, but should be aware of associated risks.

Risks for investors

There is no investor protection or legal guideline on how to proceed after investment. For example, initiators could sell their tokens without a holding period, profiting from higher token values, via a cryptocurrency exchange and then exit the project or company with a profit. The only limiting factor is the potential loss of reputation for initiators and their respective ability to initiate other Blockchain projects in future. There have been some examples of fraudulent ICOs, in which communicated projects did not actually exist, or the information about project features and initiators was false or incomplete.

In those cases, and in the absence of regulatory laws, investors will have a hard time holding fraudulent initiators accountable or redeeming their investments. To (re-) gain the trust of investors, the Blockchain community has established best practices and guiding principles for ICOs.

Risks for initiators

There is a potential risk for the initiators if the ICO is treated like a security sale. In that case the rigid legal requirements for financial securities become applicable, which then triggers a lot of additional administrative and legal obligations.

In order to avoid this, ICO initiators call their ICOs “donations” rather than ICOs. Additionally, most ICOs come with a disclaimer that the “donation” is not a security sale. It remains to be seen if those disclaimers will stand up to potential litigation.

Do ICOs disrupt VC?

In 2017, when Blockchain entrepreneurs seek funding for their technology, the question regarding where to find money is not "whether to ask friends & family vs. venture capitalists (VC)", but "where to set the funding limit in an ICO".

ICOs are becoming the dominant way of funding Blockchain startup ventures. According to statistics, ICOs have surpassed venture capital funding as a means of raising cash. Blockchain companies collected $327 million from ICOs during the first half of 2017[7]. By comparison, VC funding accounted for only $295 million during the same period. In other words, this year, only four years after the first ICO, the new route to financial resources has already surpassed the traditional "entrepreneurs' first choice". Apart from skipping the application process for VC funding and time-consuming due diligence, a reason why ICOs are an entrepreneur's new first choice is that they are much more democratic and inclusive, allowing many to invest small sums instead of a few acting as large shareholders. In turn, this gives the startup's management more freedom.

In consequence, there are two direct results: first, it is a loss in bargaining power for venture capital firms, because traditionally the well-known funds were very strong negotiators; second is that cryptocurrency prices have been trending up as they come into the focus of a wider segment of the population.

How do VCs react to the recent changes? They invest in ICOs themselves. VCs also see advantages in ICOs, because their early stage investments show liquidity for the first time. However, since almost anybody can invest directly in ICOs, where is the added value and justification for the high fees limited partners pay to their fund managers? VCs argue that the ICO market is still far from efficient, i.e. there are many traps uninformed investors could fall into. Professional investors more frequently detect red flags in the course of their due diligence, which private investors with no personal contact to the entrepreneurs would never find out.

Apart from the aforementioned advantages of ICOs over VC money, there are also reasons for Blockchain entrepreneurs to favor VC funding. Satya Patel from the Venture

[7] http://www.investopedia.com/news/blockchain-ico-offerings-have-outpaced-vc-funding-year/

Capital Fund Homebrew said: "I think that both can coexist. After all, entrepreneurs do not approach VCs just for the money; at least, VCs hope they do not. At the end of the day, a coin is not going to pick up the phone at 11 o'clock at night when your lead engineer has been fired. We think that the best entrepreneurs value currency, but they value counsel more."[8]

To sum up, for Blockchain startups ICOs have already disrupted the VC ecosystem. ICOs are a cheaper, faster, and more efficient way of funding for a newly formed company, and they also push its public popularity and initial user base far more than an individual investor can. Nonetheless, VCs still have reasons to exist; while competition for them is rising, VCs need to focus on their value-add to the startups and limited partners, i.e. offering support and connecting founders with the right people, as well as performing in-depth due diligence and separating the wheat from the chaff.

ICOs will not replace Venture Capital - both will coexist. The choice will be made depending on the ambition of the founders / initiators - The ones seeking funding "only" are probably going to ICO, whereas the ones looking for additional support will consult with VCs.

[8] http://fortune.com/2017/06/27/ico-blockchain-vc-fund-homebrew/

ICO opportunities

Besides the obvious opportunities for entrepreneurs and cryptocurrency start-ups to raise investments for their ideas, ICOs could also be a funding alternative for corporates from all industries.

In recent years, many large industry players have successfully established internal incubators and accelerators to develop innovative and new business ideas in creative and agile environments and settings.

Nevertheless, many of these ideas are not developed further or realized due to a lack of relevance to the core business and/or future strategy of the company. Even if there were a business and market potential for those ideas and concepts, they are often canned because of related funding requirements for scaling and growing the ideas. ICOs could be a potential alternative for enterprises to fund the development and growth of accelerator spin-offs without the financial burden of investing into something that is not a strategic priority.

Since only a certain amount of the issued coins will be publicly traded, the issuing enterprise could still hold a majority stake in the spin-off, without further internal investment required.

And due to the nature of ICOs this could happen at an early stage of the business idea. Therefore, enterprises could elaborate and experiment with more ideas and grow them out of the early/infancy stage to test the business and market potential, with the ICO being the first validation stage.

ICOs can be leveraged by coporates to alternatively finance and "spin off" business ideas of the incubator / accelerator programs that are not strategically relevant.

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