

STARTUP
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by William Mougayar

Venture advisor, 4x entrepreneur, marketer & strategist. I
live in Toronto, curate a lot, blog a bit, and help startups.

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Tokenomics – A Business Guide to Token Usage, Utility and Value

10 Jun 2017 By : William Mougayar 11 Comments Tag: blockchain, economy, innovation, tokens

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Despite the incredible amount of attention and material written about cryptocurrency tokens, there hasn't been a good mainstream definition of what they are. In the technical realm of the blockchain, the concept of a cryptocurrency token is well understood. It represents a programmable currency unit that is bolted to a blockchain, and is part of smart contract logic in the context of a specific software application. But in the non-technical arena, what is a token, really?

A token is just another term for a type of **privately issued currency**. Traditionally, sovereign governments issued currency and set its terms and governance; in essence directing how our economy works with money as the exchange medium for value. With the blockchain, we now have new types organizations (and soon, more of the existing type) who are issuing their own currency in the form of digital money as cryptocurrency, and they are setting their own terms and rules around its operations, in essence creating new self-sustainable mini-economies.

What was the purview of governments is now in the hands of the many.

In the business realm, we can define the token as:

A unit of value that an organization creates to self-govern its business model, and empower its users to interact with its products, while facilitating the distribution and sharing of rewards and benefits to all of its stakeholders.



The Achilles heel of token-based models will be how they are concocted to interact with the business model that underlies them. However, much of the attention has been on designing ICO's to optimize for **cryptoeconomics**, a term that has come to describe the mechanics and specifics of token distribution, according to a given sale and ownership structure.

Going forward, the token usage relationships will be far more important than the design of its underlying cryptoeconomics. As this article aptly points out, **there is no perfect token sale** structure. You can precisely engineer an ICO and that will get you to launch it properly, but then you still need to deliver a viable business model for the long term.

In early 2015, I explained (yes, it was quite early) token usages in the context of a **Distributed Autonomous Organization Operational Framework**, and I summarized a few usage models including the rights, rewards and work models that are being practiced now. Much of what I wrote then applies today, even more so, especially this part:

“The key objective of a DAO is value creation or production, and to make that happen, there needs to be a specific linkage between user actions and the resulting effects of those actions on the overall value to the organization.”

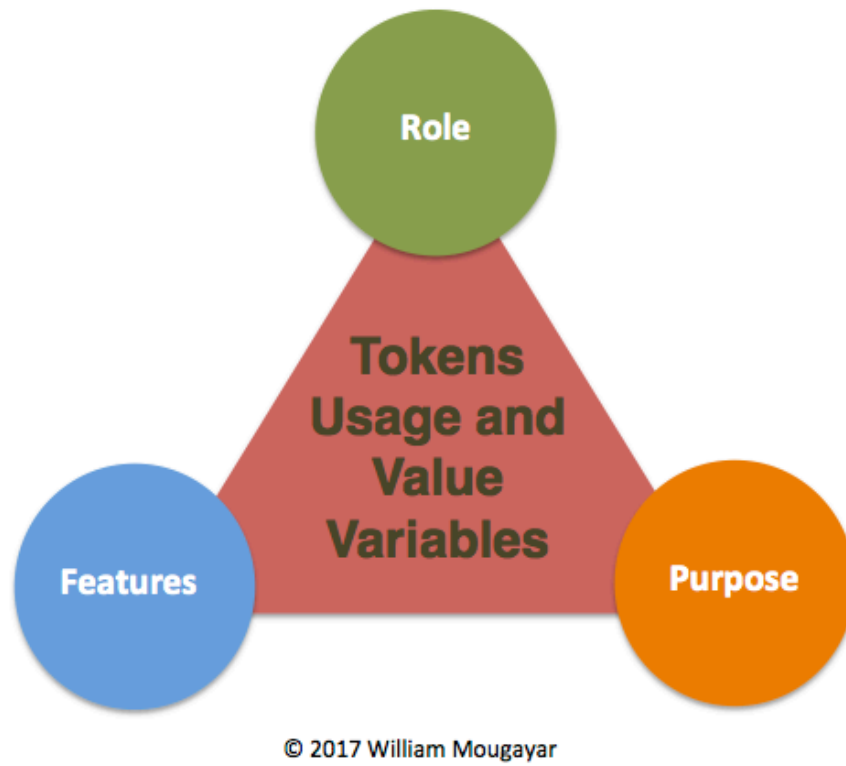
“Usage without value linkage is a waste and will result in a failure backlash. A new DAO is like a startup. It requires a product/market fit, business model realization and a lot of users/customers.”

The utility role of the token is a primary consideration in the success of the models that intend to exploit their powers. Tokens are multi-purpose instruments, and we are beginning to see more clarity in how they are being applied.

After analyzing dozens of past and upcoming ICOs, I have come up with the following comprehensive categorization for the role, features and purpose of tokens. This should help prospective and existing ICO-based companies to hone-in and focus their efforts on what will matter for their future success.

The framework I'm proposing has 3 tenets for the token utility:

Role - Features - Purpose



Each role has a key purpose, as depicted in the below chart.

A Guide to Crypto Tokens Usage and Value

ROLE	PURPOSE	FEATURES
RIGHT	→ Bootstrapping engagement	Product usage Governance Contribution Voting Product Access Ownership
VALUE EXCHANGE	→ Economy creation	Work rewards Buying Spending Selling something Active/Passive work Creating a product
TOLL	→ Skin in the game	Running smart contracts Security deposit Usage fees
FUNCTION	→ Enriching user experience	Joining a network Connecting with users Incentive for usage
CURRENCY	→ Frictionless transactions	Payment unit Transaction unit
EARNINGS	→ Distributing benefits	Profit sharing Benefits sharing Inflation benefits

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The Right

Owning a token bestows a right that results in product usage, a governance action, a given contribution, voting, or plain access to the product or market. In some cases, tokens will grant real ownership, even if most organizations are trying to avoid passing the **Howey Test** by skirting around the ownership aspect. For examples, look at Numerai, DigixDAO, FirstBlood and Tezos.

The Value Exchange

The token is also an atomic unit of value exchange inside a particular market or app, resulting in the creation of a transactional economy between buyers and sellers. This consists of features that allow users to earn value and to spend it on services that are internal to the inherent ecosystem. They can earn it by doing active work (real work and actions), or passive work (e.g. sharing data). The creation of such an internal economy is arguably one of the most important outcomes, and one that must be sustained over time. For examples, look at Steemit, Kik, Tezos, and Augur.

The Toll

Just like paying a toll to use a freeway, the token can be the pay-per-use rail for getting on the blockchain infrastructure or for using the

product. This also ensures that users have skin in the game. It can include running smart contracts to perform a specific function, paying for a security deposit, or plain usage fees in the form of transaction fees or other metered metric. For examples, look at Gnosis, Augur, Melonport, Tezos, Dfinity, Ethereum, and Bitcoin.

The Function

The token can also be used as a lever to enrich the user experience, including basic actions like joining a network, or connecting with users. It can also be used as an incentive, if it is given in return to begin usage or for on-boarding. For examples, look at Dfinity, Steemit, Civic, and Brave.

The Currency

The token is a very efficient payment method and transaction engine of choice. This is key for enabling frictionless transactions inside these closed environments. For the first time, companies can be their own payment processors without the cumbersome or costly aspects of traditional financial settlement options. Tokens offer a much lower barrier for processing end-to-end transactions inside a given market.

The Earnings

An equitable redistribution of the resulting increased value is part of what blockchain-based models can enable. Whether it is profit sharing, benefits sharing or other benefits (such as from inflation), sharing the upside with all the stakeholders is expected.

Assessing the Token Utility

When evaluating a given token-based organization, the more boxes that can be ticked pertaining to the role of the token, the better it would be. The role of tokens is like nails that encroach on your business model. You want more than a single one to hold it firmly in place, and keep it defensible and sustainable.

This is where entrepreneurs creativity has been shining, as they invent and create the many ways that a token can be put to use, at the operational level, i.e. as the rubber meets the road. It's really about innovation at the token level.

If the token usage is obscure, not well explained, or not defensible, there is weakness in that model.

I'm not sure that app coins vs. protocol coins are the right way to segment these tokens. It doesn't provide added clarity to an already obscure and new practice.

Here is a proposed set of questions to ask. If you are an ICO-based organization, give yourself 1 point for each yes answer, totalling a maximum of 20 points:

1. Is the token tied to a product usage, i.e. does it give the user exclusive access to it, or provide interaction rights to the product?
2. Does the token grant a governance action, like voting on a consensus related or other decision-making factor?
3. Does the token enable the user to contribute to a value-adding action for the network or market that is being built?
4. Does the token grant an ownership of sorts, whether it is real or a proxy to a value?
5. Does the token result in a monetizable reward based on an action by the user (active work)?
6. Does the token grant the user a value based on sharing or disclosing some data about them (passive work)?
7. Is buying something part of the business model?

8. Is selling something part of the business model?
9. Can users create a new product or service?
10. Is the token required to run a smart contract or to fund an oracle? (an oracle is a source of information or data that other a smart contract can use)
11. Is the token required as a security deposit to secure some aspect of the blockchain's operation?
12. Is the token (or a derivative of it, like a stable coin or gas unit) used to pay for some usage?
13. Is the token required to join a network or other related entity?
14. Does the token enable a real connection between users?
15. Is the token given away or offered at a discount, as an incentive to encourage product trial or usage?
16. Is the token your principal payment unit, essentially functioning as an internal currency?
17. Is the token (or derivative of it) the principal accounting unit for all internal transactions?
18. Does your blockchain autonomously distribute profits to token holders?
19. Does your blockchain autonomously distribute other benefits to token holders?
20. Is there a related benefit to your users, resulting from built-in currency inflation?

Keep in mind that even if a company ticks the above list with a high score, they still need to execute on it. So, this list is more necessary than sufficient, for success.

All ICO-based companies are encouraged to review their token usage. The more usage scenarios they can check, the more resilient their **Token-to-Market fit** might be.

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Joshua D. Tobkin · 7 months ago

@William Mougayar I am finding your blog incredibly insightful. thank you for putting in the effort to explain so much. We are able to check off most of these points in your list for **ContentMutual.com** - permission based content syndication and distribution. (We enable tracking of your copyrighted material and a mechanism to syndicate it, while producing analytics - which enables copyright holders to charge on a pay-per-performance, pay-per-view, pay-per-content consumed, CPM, etc). We also enable versioning and remixes of the content -

always permission based.

We built an internal ledger and facilitate transactions and want to move this to a public blockchain. We are well suited to adopt a token based model - the infrastructure is already built in. Any chance I can show you what we've built? We want to consider an ICO as a funding mechanism to expand our business model, which currently is a fee of all transactions we facilitate on the platform.

14 ^ | v · Reply · Share ›



Nolan Apostle → Joshua D. Tobkin · 4 months ago

Hi Joshua, tried to reach you. Want to talk about your project.

5 ^ | v · Reply · Share ›



Kirtane Chiron · 7 months ago

Man... I can't wait until people get fed up buying into overpriced opaque ICOs and we get more tokens that value and reward the community (users and developers) > founding dev teams / mr market

2 ^ | v · Reply · Share ›



William Mougayar Mod → Kirtane Chiron · 7 months ago

Agreed.

They are coming.

3 ^ | v · Reply · Share ›



Nolan Apostle → William Mougayar · 4 months ago

I AGREE WITH YOU **@Kirtane Chiron** 100%!! We've been working on a project and have gone through partner number two recently. Many, many developers are taking advantage of strong companies with "good stories" and backbone and trying to make a fast buck!! We decided from the start to do this right or not at all! We have a very strong model, we have businesses operational and earning revenues and have a very strong team as far as the industries we represent.

We are in the midst of finding a good developer or development team to move forward with us. We have come a long way in 4 months and are ready to jump, just need to interview a few more potentials. If you know any good dev teams or individuals let me know! You are also right **@William@William Mougayar** WE ARE COMING!!!

Cheers,

Nolan

^ | v · Reply · Share ›



Nolan Apostle · 4 months ago

Great, GREAT article indeed!! THANK YOU SO SO MUCH!! Your ability to explain the processes and important elements of the subject is incredible. I find myself searching and searching for content that will help the novice, non-technical reader and find it so difficult to dig up. Most of my team are business oriented and learn what they know of the Crypto Universe mostly from me, via articles and various websites that I send them to. Sure when we have our weekly pow wows where I discuss my new knowledge (what I extract from my 4 hours a day of self training) but this barely touches on the daily, sometimes hourly changes of this crazy minutia of digital currency madness. What you have put together here is subject enough for one good session!

This article just became my number one go to for help in explaining the most critical part (or at least in my humble opinion) what is one of the most critical elements of developing and launching an ICO - The Token's Utility(ies) and how to decipher it's value and WHY THAT IS IMPORTANT!

Thanks again **@William Mougayar** - BRILLIANT!!

1 ^ | v · Reply · Share ›



James Vogel · 5 months ago

You are a brilliant and thorough writer. We need to see more in dept articles such as this. I feel the articles out there are just too opaque for my taste.

1 ^ | v · Reply · Share ›



Miguel Antonio Cuneta · 6 months ago

Great piece, you never fail to deliver. Many thanks for all these insightful pieces, I learn a lot from them! I have been following you since 2014 when you published "Bitcoin is Messy, let's fix it". I have been immersing myself in the ICO phenomenon recently (mostly through your material) and am also the co-founder of www.sci.ph, a 3-year old Bitcoin startup that has built a bitcoin ecosystem in the Philippines.

What are your thoughts on established companies like ours with a good track record, a solid user base, with sound business practices (we also have VC backing from Kakao Talk, the Korean mobile chat app company with 100M active users) doing an ICO/ Token Sale? Our goal from the start has always been to build the ecosystem here in the Philippines, and we have done that to the extent of how far our limited funding can take us. The idea of our own native token has always been part of the plan from the start, and now these ICOs are making it a reality. It's very exciting.

As I understand, Tokens must have utility in the ecosystem for it to be viable. Is it also possible for the tokens to represent equity in the company? Is that even possible i.e. has anyone done something like that? I'm starting to grasp the idea of the ICO much better, and it seems that an equity-token makes less sense than a utility token.

Cheers!

1 ^ | v · Reply · Share ›



Mark Annett · 7 months ago

Great post!

I have a question related to #9 in the list of 20 question, which is "Can the user create a new product or service?"

I am curious how you would ideally like to see patents integrated into a blockchain and the associated ICO.

Specifically, if a company has a patent on a type of product or method of service delivery that the blockchain would enable to happen then should the company, as part of the ICO, give some type of automatic license to the patent, if they use the companies blockchain to provide the service.

This seems to me the only logical way to do this in a distributed system but I am interested in your thoughts.

1 ^ | v · Reply · Share ›



storifier.co · 6 months ago



Great overview. We also analyzed different token rights and here is our take on the token economics and rights:

<https://medium.com/@Storifi...>

^ | v · Reply · Share ·



Scott David · 7 months ago

Thanks for the very helpful and clarifying analytical framing for tokens. Good stuff. It is an interesting exercise to compile a list of answers to your 20 questions, but substituting reference to the various past historical institutional and organizational "solutions" to each of the questions. Each historical partial solution is revealed. Well designed systems using "Tokens" as you describe have the potential to fill the gaps left by such partial solutions. The various roles, features and purposes that you describe that were once spread out across different organizations and sectors will be brought together under successful token arrangements.

The magic (and confusing complexity in describing) these new structures is the result of their ability to hold together a synthesis of stakeholder interdependencies in a given shared narrative. The historical exercise suggested above quickly reveals that tokens are the interactive symbolic "UI" of a given community of interest, with each stakeholder able to simultaneously view the single token symbol, and each from their own perspective. The synthesis is an artifact of the emergence of distributed organizations, which are filling the gaps among existing centralized institutions. The complexity of the new synthesis is itself a result of prior risk-governance analytical silos.

It is interesting to compare and contrast these forms with historically related forms such as mutual insurance companies, credit unions, co-operatives, etc. These earlier forms may have been similar in spirit, but they lacked the capacity for massive interoperability both technically, and with respect to shared "interoperable" policies across large and diverse populations. Each of the stakeholders can look to tokens (the UI of smart contracts?) to de-risk aspects of a given set of interactions. Where that de-risking cannot be achieved by the stakeholder unilaterally, cooperation is incentivized. Tomorrow's institutions and organizations will emerge from the migration to successful de-risking (and leverage enhancing) solutions. Thanks for the very thoughtful, and thought provoking piece.

^ | v · Reply · Share ·

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William Mougayar — Not yet, although the fall is lining up :) But I will post the available videos from some of these last events. Thanks for asking!

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