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Business Model Types of Web3.0 Social Token Shaped by Tokenomics

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Abstract

We look at three use cases by business model types of Web3.0 social tokens shaped by 'token eonomics (tokenomics).' As the platform token, 'Roll' mints unique tokens to creators' reputation and allows them to own the value they create. Creators incentivize their followers contributing to the community. Tokens issued on Roll have a fixed supply with 20% minted for creators and 80% distributed across three years. With 'Roll Memberships,' followers gain benefits across token-gated platforms and protocols while getting something in return from the creator. 'Roll Staking' allows creators to integrate their community into crypto-specific products like trading markets, enhancing the features being possible in a creator's community. As the community token, 'Whale' creates WHALE token backed by non-fungible tokens (NFTs), so that it derives its value from NFTs kept in NFT art collection, 'The Vault.' 'Hold-to-Play(H2P)' rewards distributed to token holders owning a minimum threshold of tokens allow them to access to exclusive access to benefits like airdrops, tips, rewards, and exclusive information. Whale DAO open to members locking 1,000 tokens allows them to post a proposal twice a month and to vote in the senate. DAO-Voter role allows members locking 500 tokens to access the vote in the senate, but not to present proposals. As the personal token, 'RAC' distributes RAC tokens to his loyal supporters as a reward. These tokens are available for exclusive content access. RacOS makes it possible for RAC Patreon subscribers to claim RAC tokens each month corresponding with their membership tier.

Keywords: Web3.0, Social Media, Social Token, Business Model, Tokenonics.

1. Introduction

Social platforms are an integral part of daily mobile consumption, but Web2.0 platforms face some challenges like privacy infringement and content censorship. Web3.0 social platforms are emerging by giving users more control over their data, content, and interactions based on decentralized networks, providing greater transparency and user empowerment. These can be built on blockchain network known as distributed ledger technology. It is a decentralized system allowing for the secure and transparent storage and transfer of data. So, it does not need to have central authorities. No single entity has control over Web3.0 platform, making it

more democratic and resistant to censorship. Based on this, Web3.0 social media enables users to have greater ownership and to control over their data. It can offer new ways for users to monetize their content by using cryptocurrencies like Bitcoin and Ethereum, which are digital assets that can be used to facilitate transactions on the blockchain. Creators can earn cryptocurrency rewards for creating and sharing content, participating in discussions, and contributing on Web3.0 social media [1-2].

In addition to the key benefits ensuring censorship resistance and user ownership, Web3.0 technology enables tokenized incentives, allowing users to earn rewards for contributions by using cryptocurrencies and non-fungible tokens (NFTs). In fact, Web3.0 tokens have two types. Fungible tokens as cryptocurrencies are identical and interchangeable with other tokens of the same type and can be often used for voting, governance, or as a means of exchange within decentralized applications (dapps). On the other hand, NFTs like fingerprints, can't be exchanged on a one-to-one basis. They are primarily used for collectibles, art, music, and any digital item that should have a unique identity. Both tokens open opportunities in theWeb3.0 ecosystem [3].

With characteristics of Web3.0 ecosystem prioritizing user ownership, censorship resistance, community governance, and new methods for monetization, users can earn tokens for contributing valuable content, engaging with the community, and participating in Web3.0 governance. Token economics (Tokenomics) is a term capturing a token's economics and describes the factors impacting a token's use and value, including but not limited to the token's creation and distribution, supply and demand, incentive mechanisms, and token burn schedules. The main factors to consider the tokenomics are token's supply like maximum and circulating supply, ways of token distribution with a fair launch or a pre-mining launch, and token utility referring to the specific use cases designed for a token [4]. Social tokens shaped by the tokenomics can offer numerous benefits to users and support the democratization of social media by enabling brands, influencers, and businesses to create and monetize their own online communities using blockchain technology [5]. Thus, the aim of this study is to examine the business model types of Web3.0 social tokens shaped by the tokenomics.

2. Literature Review and Theoretical Background

2.1 Previous Literature Review

As the infrastructure to support Web3.0 assets matures and the technology continues to evolve in 2022, Web3.0 financial marketplaces, payment networks, and deposit and loan platforms have been experienced and it was expected that Web3.0 gaming, social, and media platforms would be next [6]. After searching papers cited more than 50 times in 'Google Scholar' with the keyword "academic papers on Web3.0 social media business model from 2022 to 2024 excluding discussions about research agenda" as of February 8, 2024, seven papers have been found. The summary is shown in Table 1. In the first paper, it is assessed where decentralized AI and edge intelligence can enable blockchain, Web3.0, metaverse and decentralized science disciplinarily, technically, and practically [7]. In the second paper, after defining Web3.0 as the technological infrastructure of the metaverse consisting of blockchain technology, smart contracts, and NFTs reducing transaction and agency costs, metaverse economics revolving around building and operating the metaverse were discussed [8]. For investigate how to use Web3.0 technologies to solve the problems like infringement and privacy leakage, the third paper examined the advances of Web3.0 in machine learning, finance, and data management [9].

After examining the concept of NFT-enabled Entrepreneurship (NFTE), the fourth paper proposed NFTE as a novel domain of entrepreneurship theory and the plausibility of using NFT as an alternative mode of knowledge production in which scholars become "NFT creators" [10]. The fifth paper indicated that Facebook (now Meta Platform)'s strategic refocusing does not correspond to a radical business model innovation (BMI)

pattern and that the logic of the straightforward communicative efforts serves two purposes, to improve the external perception of the company and to disseminate an internal change signal within the organization [11]. After defining the metaverse as an imagined future space where the neoliberal production and consumption are delinked, the sixth paper examined these changes by the affordances of cryptocurrencies, algorithmic collectibles, and NFTs. New forms of ownership with fractional ownership and fractionalized property rights were theorized to understand why some consumers pay astronomical prices for digital art including simple and often silly artwork with limited property rights [12]. The last paper defines blockchain-enabled applications including fungible tokens, NFTs, decentralized autonomous organizations (DAOs) and metaverses, and their distinctive capacities to increase peer-to-peer (P2P) interactions, to decrease large companies' control of information and services, and to facilitate access to user networks at a much lower cost than current cost were discussed [13].

Table 1. Summary of Previous Research Results

Year	Authors	Key points
June 2022	**C. Longbing.**	- Assessing the feasibility of decentralized AI & edge intelligence to promote blockchain, Web3.0, metaverse, decentralized science technically & practically
July 2022	**P.P. Momtaz.**	- Discussing metaverse economics by defining Web3.0 as the infrastructure of the metaverse consisting of blockchain technology, smart contracts, and NFTs
Oct. 2022	**C. Chen and L. Zhang.**	- Examining the advances of Web3.0 in machine learning, finance, and data management to solve the problems like infringement and privacy leakage
Nov. 2022	**Y. Chandra.**	- Proposing NFTE as a novel domain of entrepreneurship theory and the plausibility of using NFT as an alternative mode of the knowledge production
Dec. 2022	**S. Kraus, D.K. Kanbach, P.M. Krysta, M.M. Steinhoff, and N. Tomini.**	- Indicating that previous Facebook (now Meta Platform)'s strategic refocusing does not correspond to a radical business model innovation (BMI) pattern and concluding that the logic of the straightforward communicative efforts serves two purposes including for improving the external perception of the company and for disseminating an internal change signal within its organization
Dec. 2022	**R. Belk, M. Humayun, and M. Brouard.**	- Theorizing new forms of ownership with fractional ownership and fractionalized property rights to understand why some consumers pay astronomical prices for digital art including simple and often silly artwork
April 2023	**A. Murray, D. Kim, and J. Combs.**	- Discussing the capacities of blockchain-enabled applications to increase P2P interactions, to decrease large companies' control of information, and to facilitate access to user networks at a much lower cost than current cost

2.2 Theoretical Logic of the Tokenomics

As a result of examining previous studies, academic papers on Web3.0 technology and organization have been dominated for the past two years. Key to the business success of Web3.0 social media is its token development. The study of the economic models behind a crypto asset is the tokenomics, an amalgamation of two words "token" and "economics." It includes token creation, distribution, and circulation and aims to create

a Web3.0 value-driven economy by aligning the incentives of participants. Tokens are digital assets that can represent ownership, access rights, or other forms of value within a Web3.0 ecosystem and can be used as a medium of exchange, store of value, or utility tokens providing access to products or services. By utilizing the economic model to tokens, creator platforms can design systems incentivizing desired behaviors and promoting network effects. Tokenomics can change the social media markets and allows participants to tokenize their contributions and receive rewards for their value creation. [14]. It is a way of their value capture.

As shown in the left side of Figure1, key components of the tokenomics are token supply, distribution, demand, and utility. The token supply depends on the economic model. Fixed supply means, total number of tokens in existence is predetermined and cannot be changed. Bitcoin (BTC) is an example of a cryptocurrency with a fixed supply of 21 million coins. This model promotes scarcity and leads to increased token value over time due to limited availability. In the inflationary supply model, new tokens are issued over time. Ethereum (ETH) has no fixed supply cap, and new tokens are issued as block rewards to miners for incentivizing network participation and for ensuring ongoing security and network maintenance. But in the deflationary supply model, the token supply decreases over time and can be achieved through mechanisms like token burns which are executed through smart contract development. It involves sending a specified quantity of tokens to an inaccessible address, effectively removing them from circulation. These can enhance token scarcity, incentivize holding, and potentially drive-up demand and value. For example, Binance Coin (BNB) periodically burns a portion of its supply, reducing the total token supply and potentially increasing token value due to increased scarcity [15-17].

The token distribution includes deciding the initial number of tokens and how they would be distributed among stakeholders like teams, investors, advisors, and the community. It also determines the distribution of tokens for different purposes like staking rewards, yield farming rewards, airdrops, marketing initiatives, strategic partnerships and so on. These are distributed to investors for fund-raising and to the team members as incentives [15-16].

After token supply, wrong demand mechanisms could weaken the tokenomics. 'Game Theory' guides rational decision based on expected benefits. It explains the market demand surrounding any token. Within blockchain, staking and yield farming development are examples of distinct elements of the Game Theory. Traders participate by locking up their crypto assets to earn rewards, with longer lock-up durations resulting in greater gains. Another crucial factor in token valuation is community vibrancy representing collective belief in the project's potential. Like Facebook's provision of community engagement, active participation in real-life innovations strengthens community support. If the community perceives the token as valuable, its prospects are brighter [15].

Token utility refers to the use cases designed for a token. For instance, BNB's utility includes powering the BNB chain, paying transaction fees and enjoying trading fee discounts on the BNB chain, and serving as community utility token on the BNB chain ecosystem. Users can stake BNB with various products within the ecosystem to earn additional income. In social market, token utilities can improve user experiences and provide benefits for holders. In terms of access rights, tokens can grant users access to specific features, services, membership privileges, exclusive content, events within a social platform. For instance, holding a certain number of tokens may provide early access to beta versions of a product or premium content. Tokens can also grant users data access, allowing users to exchange data, information, or digital assets. In terms of voting rights, tokens with governance functionality enable token holders to participate in decision-making processes like protocol upgrades, parameter adjustments, or community governance initiatives. Token holders can vote on proposals, delegate voting power, or stake tokens to give a voice in shaping the future direction of the

project. In terms of discount rights, token holders can get discounts on products or services, bonuses, fee reduction, or other benefits to users encouraging engagement. Lastly, in terms of the in-platform economies, users can trade products and services directly with each other using tokens as an exchange medium [4, 14-15].

Tokens can be used to incentivize desired contributions like providing liquidity, referring users, or participating in community activities. The right side of Figure 1 shows the fundamental of the tokenomics, the incentive structure. It encourages user participation and value creation within the ecosystem. There are three main incentive structures. The first is the rewards. Tokens can be used to reward users for their activities on social platforms. By distributing tokens proportionally to the value contributed, platforms can incentivize users to engage more actively. It includes actions like creating content, sharing insights, and referring new users. The second is the staking which refers to locking tokens in a smart contract for a specified period. By staking tokens, users can earn rewards or access additional features and benefits. This mechanism encourages long-term engagement and loyalty. The third is the gamification which can be applied to motivate users to achieve certain goals. By introducing challenges, leaderboards, and achievements tied to token rewards, platforms can drive user engagement and create a competitive environment [14].
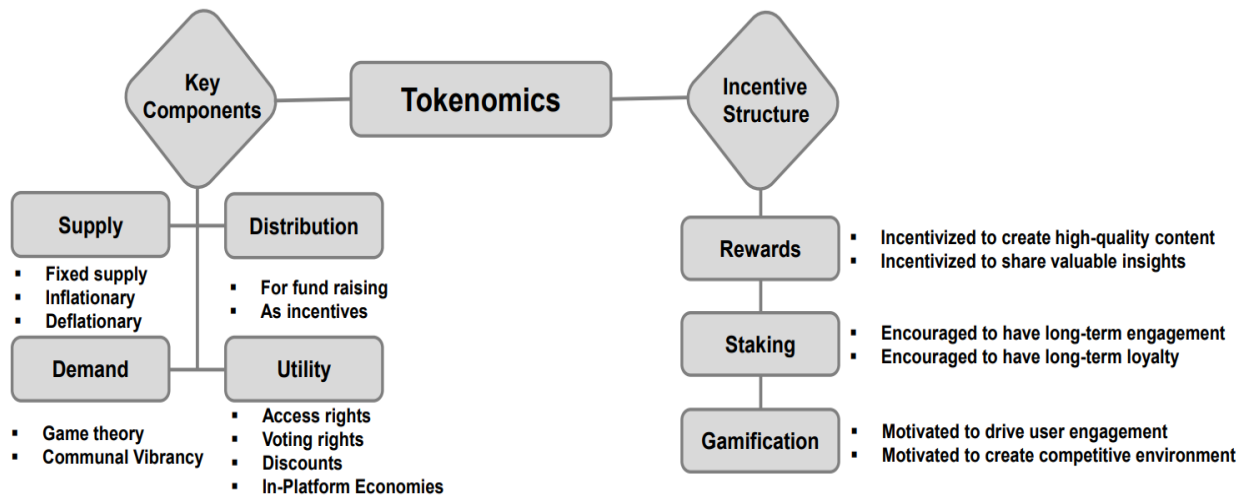

Figure 1. Key Components and Incentive Structure of Tokenomics

3. Research Design

With the tokenomics, tokens can be used to reward users for participating in dapps or contributing to decentralized social media ecosystem and token utilities are various. Owning a certain number of tokens grants users voting rights in determining the future direction of a social media project or tokens can also represent ownership or access rights. Creators can tokenize their digital works, ensuring authenticity and ownership [3].

Even if the concept of the social token is still unfamiliar, issuers and researchers categorize three types of the social token: Personal tokens linked to one person, community tokens used for governance, and platform tokens incentivizing platform participation.

Platform tokens represent interest in a platform facilitating social token issuance and exchange. Community tokens are intended to provide their members exclusive access to information, expertise, human resource, events, and so on. Lastly, personal tokens are issued by a creator like an influencer, an artist, an actor, or a

band to capitalize on their creativity. These three types have various token utilities which enhance user experiences and provide additional benefits for token holders. Tokens allow access rights to exclusive content, features, events within a social media. Tokens with governance functionality enable holders to have voting rights. They can participate in decision-making processes within a decentralized social media. Token holders can also have discounts on products or services offered by the social platform. In terms of platform economy, tokens can facilitate P2P transactions within a social platform. Users trade goods or services with each other using tokens as a medium of exchange [18-20].

The left side of Figure 2 shows use cases firstly by social token type in 2023 and top eleven social tokens of 2023 and by market cap as of February 23, 2024. Three types have one thing in common. The ownership of one person's reputation is represented and it is the essence of the social tokens. By creating tokens unique to one person or community, individuals can have their own economy. It allows creators to be supported by their public without the need to be subjected to algorithms deciding their income, or market protocols to which third parties are subjected. So, personal and community tokens are a subset of platform tokens [18-19, 21-22].

In four resources, overlapping tokens are platform tokens like Rally and Roll, community tokens like Whale, FWB and the personal token like RAC, a subset of a platform token, ZORA. Roll personal tokens and Rally Creator Coins are also subsets of each platform token, Roll and Rally. From January 2023, Rally sidechain began to sunset. So, it is not supported any more [23]. Thus, three representative social tokens like Roll, Whale, and RAC are selected as use cases of this study. They are examined in terms of four token utilities such as access rights, voting rights, discounts, and in-platform economies, including incentive structure of reward, staking, and gamification, as shown in the right side of Figure 2.
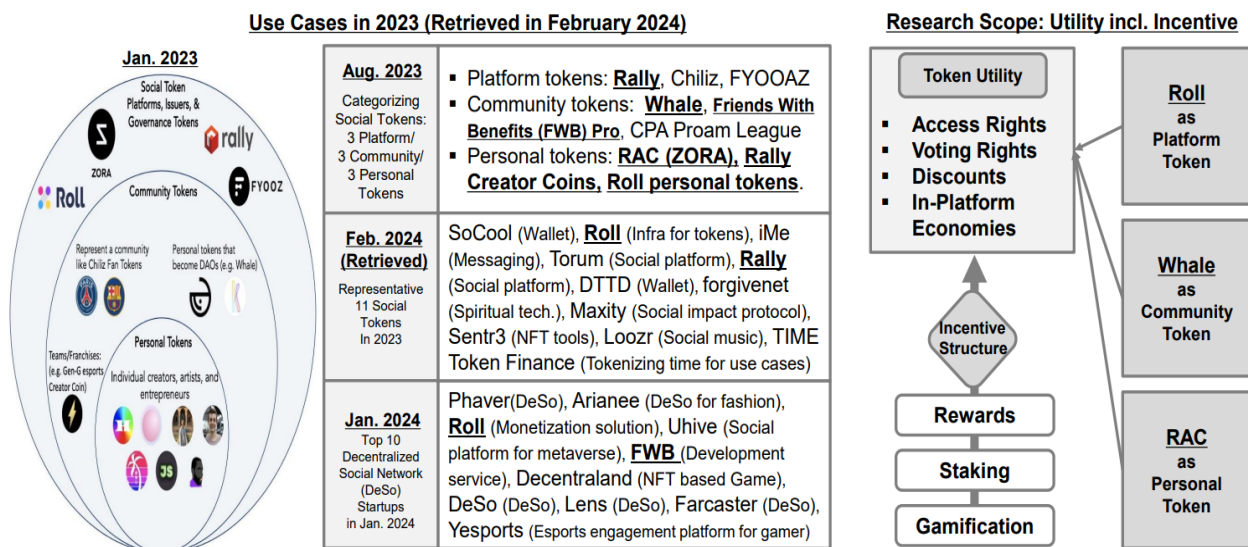

Figure 2. Research Framework: Use Cases by Social Token Type

Along Figure 2, the research questions are as follows:
1) What is the token utility considering the incentive structure of the platform token, Roll?
2) What is the token utility considering the incentive structure of the community token, Whale?
3) What is the token utility considering the incentive structure of the personal token, RAC?

For this case study, we search the market data, company documents and press releases of three social tokens, Roll, Whale, and RAC from their launching years.

4. Results

4.1 Token utilities of the social platform token, Roll

New York based Roll founded in 2017 is Web3.0 monetization solutions for creators. It provides social tokens and uses Ethereum blockchain to develop these tokens controlled by an individual or a community. Users can buy and sell social tokens on Roll offering an Web2.0 application (app) that is available on iOS and Android devices [22]. So, Roll is an infrastructure enabling social tokens to move between Web2.0 and Web3.0.

In terms of the distribution, creators can make their own personal tokens based on ERC-20 standard by minting on Roll. There is no fee to launch a personal token, but Roll keeps one percent of every creator's total token supply at genesis. It means that Roll captures one percent of the market cap of total social token issued. This 1% ownership of the social tokens held by Roll can be decentralized to a Roll DAO. Thus, Roll makes it easy for creators to mint their personal tokens and leverage them to provide access to exclusive content. Token issuers have their own network, which has its own social value and by creating a token for each person. Then, these tokens can be digital loyalty points sent directly from creators to followers. On Roll, users as followers can gain through social activities and exchange for exclusive experiences and products. Users can accumulate these social tokens and unlock special rewards by liking posts, sharing content, and interacting with the creator community. From the creators' point of view, to put it simply, there are three steps for circulating social tokens on Roll network: Creators can issue their own tokens, incentivize their followers to contribute value to network by rewarding them, and provide unique and valuable opportunities to transact with the social tokens [24].

In terms of the token supply, Roll has a fixed supply of ten million units. Two million of the maximum supply are minted at genesis for creators, so that they can create an initial distribution of their tokens to their friends, family, colleagues, and fans. The remaining eight million tokens are distributed across three years. It means, Roll wallet accumulates 200,000 units per month over 3 years. There is a continuous flow of the tokens from creators to their followers and back to them, keeping the economy going. In the early stages after the launch, this token supply system requires issuers to reset liquidity and it might make their tokens volatile to certain extent. However, social tokens on Roll do not need to have liquidity when communities grow because they start by distributing to existing, committed, long-term-oriented members [25-26].

After the 'Roll Minting' product, in September 2022, new membership and staking tools have been released on Ethereum. The 'Roll Memberships' product allows creators to monetize their personal tokens by offering benefits and rewards to followers holding a certain amount of their token. Roll Memberships generate tiers based on the token amount held in the user's wallet. Since this is on-chain, anyone can be a member by connecting an Ethereum wallet like MetaMask and paying for a creator's membership tier in other tokens like Ethereum Coin (ETH) or USD Coin (USDC). In return, the member gets an amount of the creator's social token to use on platforms like Discord, Geneva, Bonfire and so on, which have integrated token-gated social features. The 'Roll Staking' product allows creators to create staking rewards in their social token and these help creators come on-chain. By moving from an online creator economy to this on-chain creator economy, conventional metrics like views, subscribers and follower count begin to matter less to creators. On top of the Memberships, Roll Staking allows creators to distribute and automate liquidity for their social token. If creators want to start trading their tokens on exchanges, they can use this Staking to grow liquidity on platforms like Uniswap. When users as followers contributes liquidity to the pool, they can also receive creators' social tokens as a staking reward, bringing features like liquidity and trading volume into a creator's community [27-28].

At launch of Roll Memberships and Staking, Roll has minted over 450 tokens for creators and communities with a collective market cap of over $100 million. Representative creators include Steve Harvey ($VAULT),

Shepard Fairey ($OBEY), Dallas Hart ($STUDIO), The Professor ($CROSS), and so on. Along with Roll Minting, two products complete what Roll calls the on-chain creator economy. Creators can own the foundation of their community through their own smart contracts and create contracts [29].

The left side of Figure 3 shows examples of Roll Memberships, QuHarrison and The Professor. These focus on establishing core members of each community by distributing social tokens to users who can access on-chain utility across platforms. Creators can capitalize on their memberships by setting a price in ETH for each tier. As creators move from on-line to on-chain, this type of infrastructure is a de-facto way for a creator to establish a Web3.0 community and for DAOs to start a treasury. The right side of Figure 3 shows examples of Roll Staking. Those can be used for liquidity mining or simple collaborations across communities like "to stake $TOM, to get $DAVE" as an example. For liquidity, staking establishes a purpose-built on-chain market, expanding the potential for anyone to access a community by buying tokens and becoming a member [30].
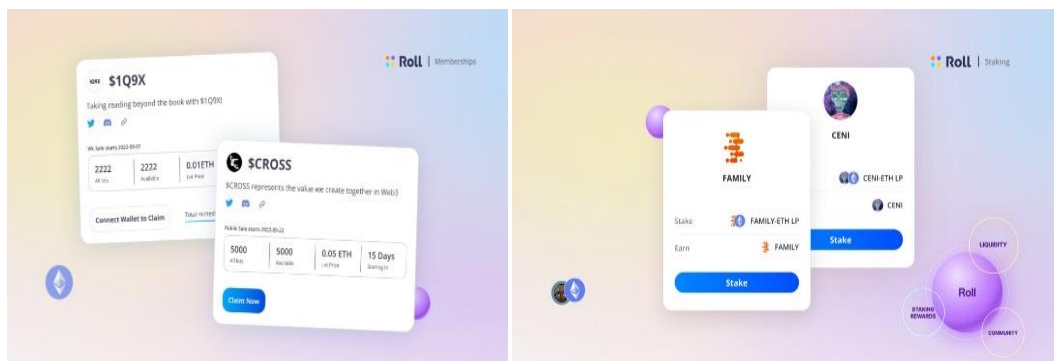

Figure 3. Examples of Roll Memberships (left) and Roll Staking (right)

Along with the Roll Minting product with gas free features powered by Roll Application Programming Interfaces (APIs), these Roll Memberships and Roll Staking products build treasury and liquidity. These complete what Roll calls the on-chain creator economy for social tokens. This is a world where creators can own the foundation of their community through their own smart contracts and create contracts on the terms that matter to them and their community.

4.2 Token utilities of the community token, Whale

Community token launched by creator communities or brands, offers benefits to their followers or customers, such as exclusive products, services, and experiences. In contrast to personal tokens minted on various social token platforms like Roll, community token holders are offered voting rights and a share of the company's revenue. So, the community tokens are issued by DAOs. A case is Whale, a membership club for admirers of digital art and culture. Whale's WHALE token as a native community token was launched in May 2020 by a NFT collector, the pseudonymous WhaleShark firstly starting to collect valuable NFTs since 2019 and to hold some of the most valuable NFTs. He built 'Whale Members.' WHALE token is the first community token supported by an NFT collection in the world. WHALE token holders can enjoy benefits including free NFT rentals, NFT airdrops, access to exclusive NFTs, liquidity mining rewards, and Whale DAO governance [24].

Whale is a kind of membership club powered by the community token, WHALE backed by rare and valuable NFT assets in the world and the club treasury, the Whale Vault. It offers both utility and investment appeal to

its club members. WHALE token holders can gain access to exclusive content and NFT giveaways by up-and-coming artists. Whale is supported by NFTs in the NFT art collection, 'The Vault' which is a publicly audited collection on the NFT marketplace, OpenSea. NFTs held in The Vault serve to provide the token with a base level of intrinsic value. As of April 2023, Whale's 25,000 members have made decisions about which NFTs to buy and sell and how to structure the Whale monthly distribution budget. Community members get benefits like renting NFTs from The Vault, exclusive WHALE airdrops and NFT airdrops [18, 23, 31].

At launch in May 2020, the vault was a collection of NFTs personally owned and managed exclusively by the social entrepreneur, WhaleShark, but he decided to share his success with the community, 'Whale Members' or 'Whale DAO.' With this introduction, the community can gain control over the vault, so that WHALE token holders can vote on decisions about the project's community, budget, events, and asset management in The Vault. Some high-profile projects where WHALE Vault is a leading asset holder, include NBA TopShot, Gods Unchained, Cryptovoxels, Sandbox, and so on. As shown in Figure 4, as one of the largest digital art collectors in the world, Whale Vault is also the largest collector of works by Pak, Hackatao, XCopy, and many other top digital artists and designers. As of November 2022, Whale DAO's Whale Vault is valued at over US$75 million. The collection is traded in Opensea [32].

	Artists	Valuation	# of assets	Total Value
SuperRare	XCOPY	$1,372,127	23	$31,558,921
◣●	XCOPY	$43,730	2	$87,460
N	Pak	$18,715	13	$243,298
SuperRare	Hackatao	$261,922	13	$3,404,991
◣●	Hackatao	$6,803	3	$20,409
SuperRare	Pak	$670,065	18	$12,061,170
mp	Pak	$908,327	1	$908,327
mp	Brendan Dawes	$4,394	54	$237,276

Figure 4. Representative Works in the Whale Vault (Nov.2022)

The value of Whale is driven by its recognition and commerce because it draws value from the social acceptance. In terms of the token supply, as of 2022, a fixed maximum supply of ten million WHALE tokens have been allocated as follows: Ten percent reserved for the founder and founding team (granted for two years from May 2020), ten percent reserved for a private sale (purchased over 20 months), 42.6% distributed to the community at a rate of 40,000 WHALE tokens per month, and 37.4% reserved for the Whale Foundation (acquired over ten years). As of April 2023, Whale has a market cap of US$6.9 million. WHALE tokens allocated for community distribution can only be earned in limited ways, like selling NFTs to the Whale Vault in exchange for WHALE or participating in staking activities held by Whale partners. Of 40,000 WHALE tokens targeted toward community development per month, 25% is reserved for team and partnership stipends, 25% is used for Whale community rewards, and the remaining 50% is for 'Hold-to-Play (H2P)' rewards

distributed to WHALE token holders owning a minimum threshold of required WHALE tokens, which allow them to access to exclusive 'Discord' channels, events, and giveaways [20, 31-32].

In terms of the governance, after transitioning to Whale DAO, Whale community can decide which collectibles to buy, sell, and rent. Due to ongoing development of sophisticated DAO mechanisms in the crypto space, Whale faced some challenges including the technicalities of property rental and security risks when dealing with high-value assets like NFTs. Despite such uncertainties, the transition to Whale DAO began in September 2020 with the goal of enabling WHALE token holders to exercise control over the project's community, budget, events, and management of assets in The Vault. The Whale DAO role is open to members locking 1,000 WHALE allowing them to post a proposal twice a month and to vote in the senate. The DAO Voter role allows members locking 500 WHALE, to access the vote in the senate, but not to present proposals [31-32].

4.3 Token utilities of the personal token, RAC

Personal tokens are ERC-20 or similar tokens controlled by an individual. Token holders can vote on decisions or exchange the tokens for services. By tokenizing themselves, the individuals build an audience and make money to finance their projects. Token issuers control supply and demand of their tokens by designing a smart contract limiting the number of tokens and then burning them when used for consulting services [33].

Creators can use tokens they issue to reward their fan community. Personal tokens are associated with NFTs as unique assets that are represented like a digital art piece. A music NFT prominent André Allen Anjos, known by his stage name, RAC was nominated for back-to-back Best Remix awards at the Grammys in 2016 and 2017, scooping the 2017 gong, and working with the social token platform, Zora on the release and circulation of the new token [34].

RAC started to allow his fans to buy 'Ego,' the first full album released by Ethereum blockchain in 2017 and the same in 2020 with his album 'Boy.' Then, he tried to experiment with his own ERC-20 token, $RAC and released several NFTs alongside the use of Patreon and Discord in a bid to further build a community around his music. RAC token holders can access to exclusive content, Discord channel, merchandise etc. In February 2022, he released racOS, an artist and fan-controlled platform, which provides a space where RAC token holders connect each other and access myriad experiences. To access racOS, RAC token holders connect their wallet to verify holdings and unlock benefits including exclusive music playlists. An initial ten million tokens have been released. RAC merchandise buyers and Twitch supporters could receive tokens. Moreover, there are specific benefits for RAC fans paying Patreon subscriptions. These loyal individuals receive RAC 50,000 per month. RAC added tokenized advertisement space to his Twitch channel, as well as discounts on RAC-themed merchandise for RAC token holders [34-36].

In May 2023, RAC launched the 'CULT Pass,' a membership pass based on long-term fan engagement, which visually changes and morphs based on what is in fans' wallet. Fans owning RAC's music NFTs own a unique image of an organic "orb"-like object, which is generated based on the RAC songs they own and their other Web3.0-powered interactions like livestream attendances, concert ticket purchases, and so on. As fans continue to interact with RAC, the orb changes and becomes a collectible. As results, it represents the owner and unlocks access to exclusive experiences, merchandise, and music. This project is in collaboration with Hifi Labs. As shown in Figure 5, CULT Pass orbs are designed to act like a membership token to RAC fan club. The framework of CULT Pass is meant to reflect the unique expression of each artist and their community [37-38].
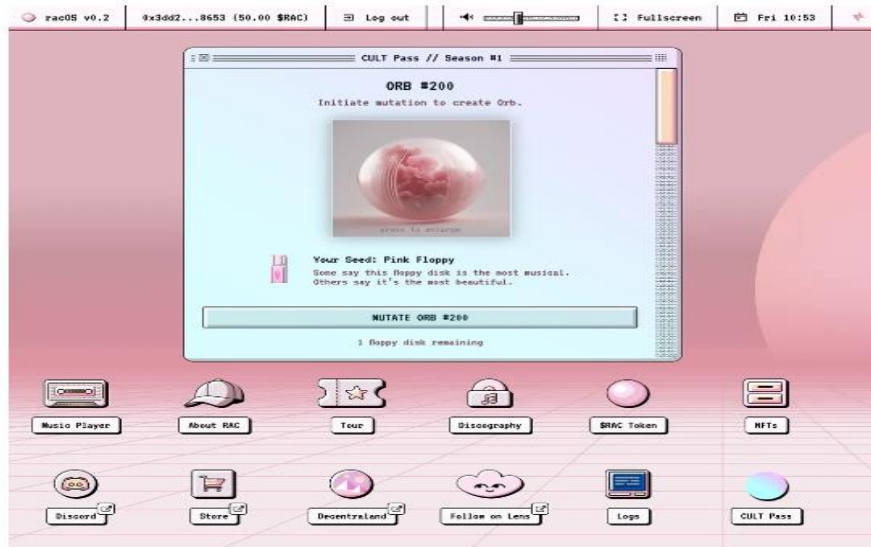
Figure 5. RAC's CULT Pass orb mutation process

In terms of the governance, RAC as a direct-to-fan DAO represents the creative works of RAC. So, this token acquisition works in a way that RAC Patreon subscribers can claim RAC tokens each month proportional to their Patreon membership tier, in addition to get access to exclusive unreleased music playlists and a 3D virtual world browser-based platform, 'Decentraland' experience [39].

5. Conclusion and Discussion

The summary of the results is shown in Table 2. Roll mints branded tokens unique to creators' reputation, allowing them to own and control the value they create. Then, creators incentivize their followers contributing to the community. Users can withdraw tokens from their Roll wallet and send them to their Ethereum wallet anytime. Tokens issued on Roll have a fixed supply with 20% minted at genesis for the creator, and 80% distributed across 3 years. There are two monetization tools. With Roll Memberships, followers gain benefits across token-gated platforms and protocols while getting something in return from the creator. Roll Staking allows creators to integrate their community into crypto-specific products like trading markets, enhancing the features being possible in a creator's community. Whale community created an ERC-20 WHALE token backed by NFT, so that it derives its value from NFTs kept in NFT art collection, The Vault. To increase community engagement, Whale created some roles. H2P rewards distributed to WHALE token holders owning a minimum threshold of required WHALE tokens allow them to access to exclusive access to benefits such as airdrops, tips, rewards, and exclusive information. Whale DAO opening to members locking 1,000 WHALE allows them to post a proposal twice a month and to vote in the senate. DAO-Voter role allows members locking 500 WHALE tokens to access the vote in the senate, but not to present proposals. RAC distributed RAC tokens to his most loyal supporters as a form of reward. So, RAC token helps unlock access to various perks and exclusive content. RacOS makes it possible for RAC Patreon subscribers to claim RAC tokens each month corresponding with their Patreon membership tier.

Table 2. Summary of Results

Cases		Token Utilities
Roll	①Access Rights	: Allowing creators to make their personal token & send points to followers
	②Discounts	: Giving gas fee free features powered by Roll APIs on Web2.0 app platform
	③Voting Rights	: One percent ownership of the tokens being decentralized to a Roll DAO
	④In-Platform Economies	: Allowing users to withdraw tokens from Roll wallet and to send to Roll wallet by offering Roll API and SDKs (Software Development Kits) on Roll OS
Whale	①Access Rights	: Free NFT rentals and purchase from The Vault and NFT airdrops, access to exclusive NFTs, liquidity mining rewards, and Whale DAO governance
	②Discounts	: H2P for allowing people having some amount of WHALE to access to exclusive benefits like airdrops, tips, rewards, and exclusive information
	③Voting Rights	: Whale DAO allowing members locking 1,000 tokens to post a proposal twice a month and to vote in the senate/DAO-Voter role allowing members locking 500 tokens to access the vote in the senate, but not to present proposals
	④In-Platform Economies	: Allowing 10% of total fixed token supply for a private sale
RAC	①Access Rights	: Allowing access to exclusive content, Discord channel, and merchandise
	②Voting Rights	: Allowing RAC Patreon subscribers to claim RAC tokens each month proportional to their Patreon membership tier
	③Discount Rights	: Allowing CULT Pass member to unlock access to exclusive experiences
	④In-Platform Economies	: Providing a space where RAC token holders connect each other and access myriad experiences by offering racOS, an artist and fan-controlled platform

Key characteristics of social tokens are to offer creators financial independence from intermediaries and to enable deeper interaction between fans and creators. To launch these tokens successfully, a strong tokenomics is essential. This research gives a new intuition that social tokens can be a key success factor of how creators and brands create and transfer their value from the social communities they have cultivated. Since this study only dealt with use cases of the business models, controversial regulatory issues were completely excluded. In conclusion, with its focus on discovering, sharing, and rewarding creator content, social tokens offer users a more efficient way to create, manage and own their social media content. Despite some regulatory and technical challenges, it is meaningful to research some early adapter cases of Web3.0 social media platforms. It is worth for current social media users to have different social media experiences from Web2.0 platform.

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