THE FUTURE OF BLOCKCHAIN GAMES:
AN IN-DEPTH ANALYSIS

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Abstract

The nature of Blockchain games lies in their ability to overcome the barriers presented by the original game system with the help of neutral and reliable third-party blockchain technology, making a more equitable distribution of interests possible. It also allows for the creativity of the vast majority of players to be expressed, and for the construction of a co-creative and co-governing new ecosystem with Decentralized Autonomous Organization (DAO) at its core.

Blockchain gaming has disrupted the traditional games model by unleashing two key assets into the gaming space — the "Fungible token" and "NFT" (Non-Fungible token). Since their introduction, the boundaries of the blockchain gaming space have widened, and the secondary market, which was originally regarded by publishers of single-player games as being negligible, can now function as a revenue stream through the consumption of in-game tokens and royalties in the NFT market. The emergence of the secondary market does not harm the interests of game publishers; rather, it allows them greater monetization opportunities. At the same time, the issue of tokens has completely changed the role of players — they are no longer simple consumers, but active members of the ecosystem, able to share in its growth. Profit for publishers, that originally could only be obtained after a game is sold, can now also be confirmed before the game is released, changing the traditional game release process and unveiling more possibilities.

But in the meanwhile, Blockchain games also face problems with providing a wholesome gameplay experience, short lifecycles and capital transfer. However, with future capital investment, the gameplay experience of Blockchain games will gradually catch up with that of traditional games, and their unique financial and economic attributes brought about by the token model will also mature. Blockchain games will gradually include elements such as sports and social interaction, and new game types (such as TOB and F2P2E proposed by this paper) and game modes (Social to Earn, Race to Earn, Watch to Earn, etc.) may emerge, and affect the way games are issued.

Also, with the emergence of Blockchain games, new player types will emerge. This paper puts forward a method of using the "Cartesian coordinate system" to describe players' contributions to the game ecosystem. Meanwhile, platforms for blockchain game releases will gradually develop, NFT trading platforms will emerge, and game developers will adapt to new ways of making profit and operating games.

In the future, Blockchain games will likely overhaul the whole industry. This paper aims to show the profound changes that blockchain technology brings to the gaming world from the gameplay, user, platform and developer perspectives, and foresees a promising future for Blockchain games.

1. From the game content perspective

※ Gameplay quality of Blockchain games will catch up with that of traditional games in a few years.

At present, Blockchain games comprise mainly card games, such as the head project at Axie Infinity and the game Splinterlands, with simple gameplay styles. The reason why card games have become the mainstream is that Blockchain games, being a new variant combining traditional games and blockchain, did not receive much funding during the initial stages of development.

Another reason would be the development cycle. Being profit-driven, the first batch was not of satisfactory quality. Compared to traditional games, some prominent games like GTA5 cost about US$265 million to develop and took a team of more than 1000 people nearly five years to complete. It would be challenging for a firm like Sky Mavis (publisher of Axie Infinity) to have investment backing of this scale prior to the onset of the bull market. Due to capital and manpower limitations, Blockchain games developers tended to choose card games with high performance-to-price ratios, which to some extent has made the current array of Blockchain games lag far behind traditional games in terms of graphics quality, gameplay and game diversity.

As a result, the quality of gameplay has lagged behind that of traditional games which are backed by large firms, and this has also become the reason why Blockchain games are not favored by traditional players who value a superior gameplay experience.
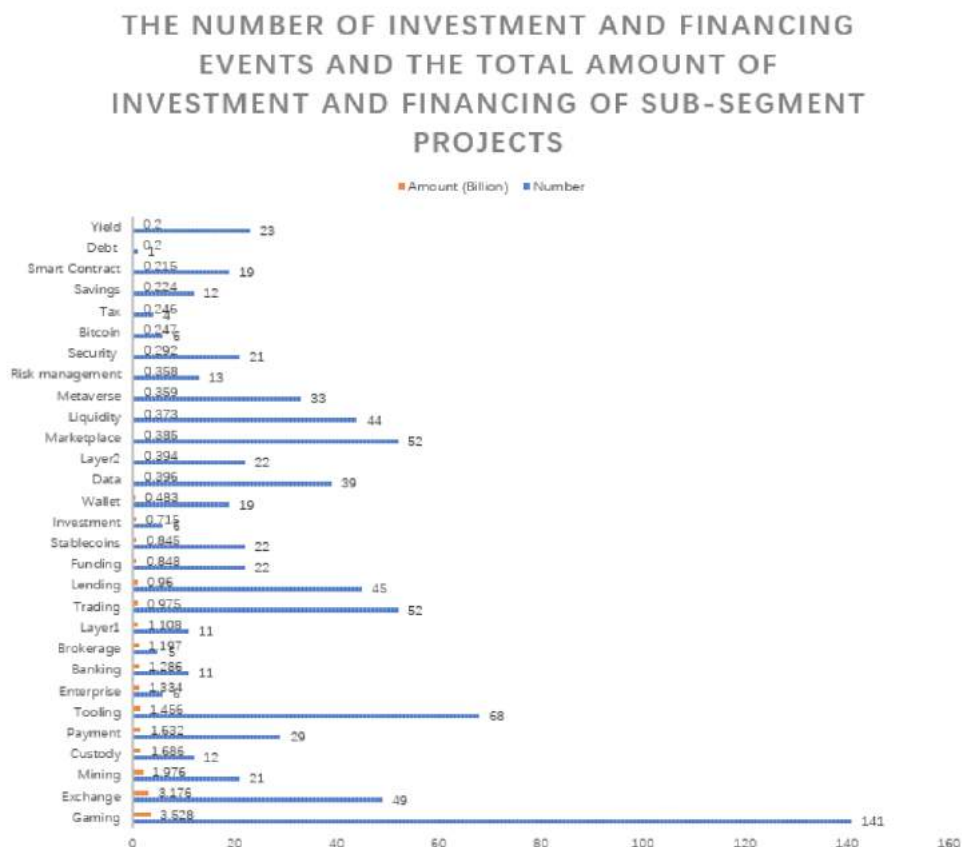

Figure 1. Cryptocurrency investment and funding data
Source: Dove Metrics, 2021

However, with the rise of Blockchain games，the revenue of Axie, a card game, reached a surprising US$336 million in 30 days, which surpassed that of another remarkable mobile game--Arena of Valor, leading others to contemplate the promising future of Blockchain games.

Meanwhile, according to cryptocurrency investment and funding data provided by Dove Metrics for the year 2021, Blockchain games received 141 investments and funding worth US$3.5 billion in 2021, topping the category rankings.

Although Steam, one of the most prominent game release platforms, has banned Blockchain games, its rival platform Epic has recognized the prospect of Blockchain games and welcomes them. In addition, Microsoft's acquisition of Activision and announcement of its intention to enter the GameFi and Metaverse fields bodes well for Blockchain games. Ubisoft has also begun to explore the NFT space, despite little success. Blockchain games are not completely independent of traditional games but are instead the product of traditional in-game assets that are based on-chain. Apart from their on-chain nature coupled with smart contracts and links to wallet APIs, other aspects of Blockchain games are hardly different from those of traditional games. These aspects include picture quality, gameplay that does not involve tokens visual design, the use of game clients to run the game and the use of development tools. For example, Decentraland, a Metaverse game, is based on Unity, a development engine for traditional games. All in, there are no technical limitations involved with incorporating Blockchain aspects into traditional games. All that is needed is time and investment.

We have reason to believe that with capital injections and interest from traditional game manufacturers, Blockchain games of the future will catch up with traditional games in terms of gameplay, and Blockchain games have much to learn from the gameplay elements in traditional games. Any substantial improvement in the gameplay experience will attract a large number of traditional game users into the Blockchain field.

※ Financial attributes of Blockchain games continue to develop

In addition to gameplay, Blockchain games hold strong financial potential. GameFi stands for a combination of Game plus Finance. GameFi encompasses a token economy model, which rewards players with NFTs or tokens. As tangible assets, game assets can be injected into the in-game to spur player engagement.

For a long time, the traditional game industry (especially single-player games) was engineered to only allow for game publishers to dominate the primary market, while the secondary market, formed spontaneously by players, remained a largely undeveloped gray area. For most game publishers, the existence of the secondary market would affect sales in the primary market. For example, if games on Steam could be resold to other players after a stage has been cleared, it would definitely deal a fatal blow to game publishers. Game authorities, including the Steam platform, prohibit such behavior, but

certain online trading platforms, such as Taobao, allow for sellers to provide players with shared accounts that can be used by multiple people. The emergence of Blockchain games has now broken such a taboo.

With the application of blockchain technology, game publishers can collect revenue from the secondary market through NFT royalties, resulting in a secondary market that is profitable to the issuer. Therefore, the secondary market can now move from a behind-the-scenes position to front stage.

Figure 2. Picture of DeFi Kingdoms

When the DeFi craze sprang up, its elements were also integrated into Blockchain games, and DeFi gaming worlds became an example of the deep integration of both games and DeFi. In the DeFi world, a complete decentralized exchange (DEX) is integrated into the game so users can achieve liquidity mining when farming in-game and accumulate in-game funds. This integration reduces the threshold for novice players to use DEX. Therefore, blockchain games can attract large user numbers through the high interest rates provided by DEX, and from there, guide users to participate in the game to earn higher profits. This mechanism will encourage DeFi users to remain in-game paving the way for DEX and Blockchain games to develop. In addition, DeFi is the cornerstone of the blockchain world. The existing DeFi structure will lay a solid foundation for helping other parts of the Metaverse develop.

Blockchain games will develop synchronously with the blockchain industry. Any innovations in blockchain and DeFi will likely be integrated into the Blockchain games field and strengthen its attributes.

※ Combining sports and stars

We expect Blockchain games to be more integrated with traditional fields such as sports events in the future. Sorare, a fantasy football game, stands as a good example. Currently, Sorare has obtained cooperation agreements with 215 football clubs around the world, including top clubs such as Liverpool, Juventus and Real Madrid. Investors, including Softbank Corp., Atomico, Bessemer Ventures, D1 Capital, Eurazeo, IVP and LionTree, raised a round of $680 million worth of funding last September.

Sorare's target user base consists mainly of football fans, and users can buy NFT cards featuring star players in Sorare to experience the fun of being a "football manager". Players can build their own NFT teams according to their preference and compete for medal rankings. The most compelling aspect of the game is its integration mechanism with events in real-life traditional football matches. For example, if a star scores or assists with a goal in reality, the NFT card of the same star in the game will also receive corresponding points and the virtual teams they belong to will be ranked according to points received. As the live streaming of sporting events undoubtedly contributes to the fan experience, the deep integration of Sorare fantasy football with real-life sports events creates a new game experience for fans, allowing fans to experience the joys of being engaged with a sports event while gaining a sense of achievement from collecting NFT cards.
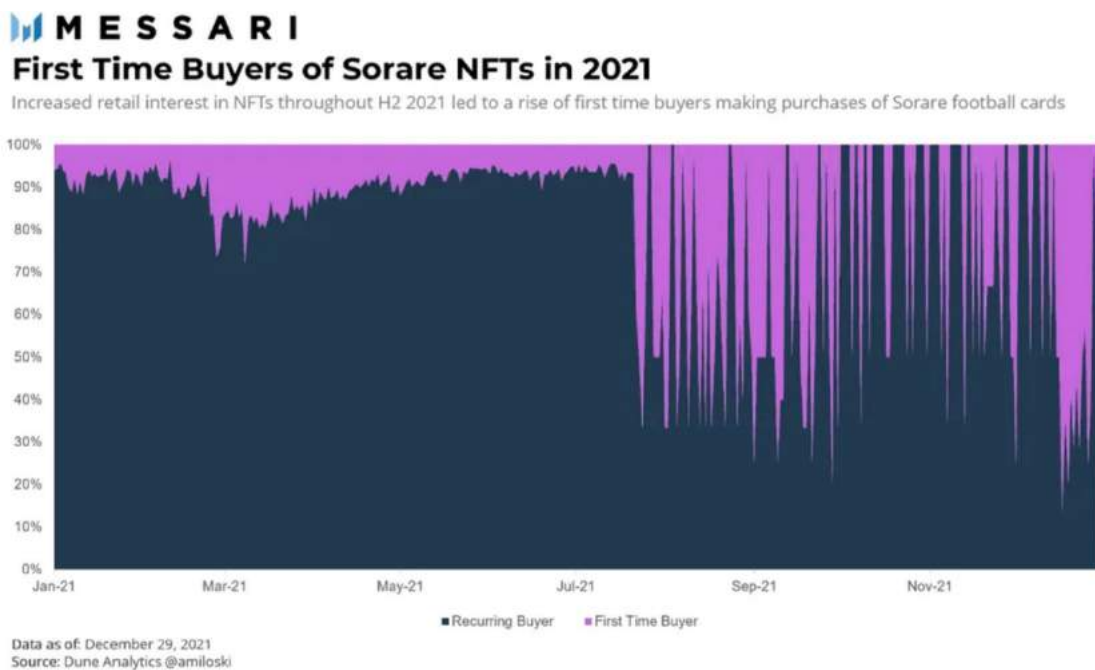

Figure 3. First TIme Buyers of Sorare NFTs in 2021

In essence, Sorare was not designed as a complex game like Axie, but bases its gameplay on a real football game. As the Sorare team puts it: "We are the game in the game." The new experience of playing the game while watching the game has also been welcomed by the fans. In December 2001, Sorare NFT had more than 20000 independent sellers per month for the first time, and the proportion of new users buying NFT on Sorare also increased significantly.

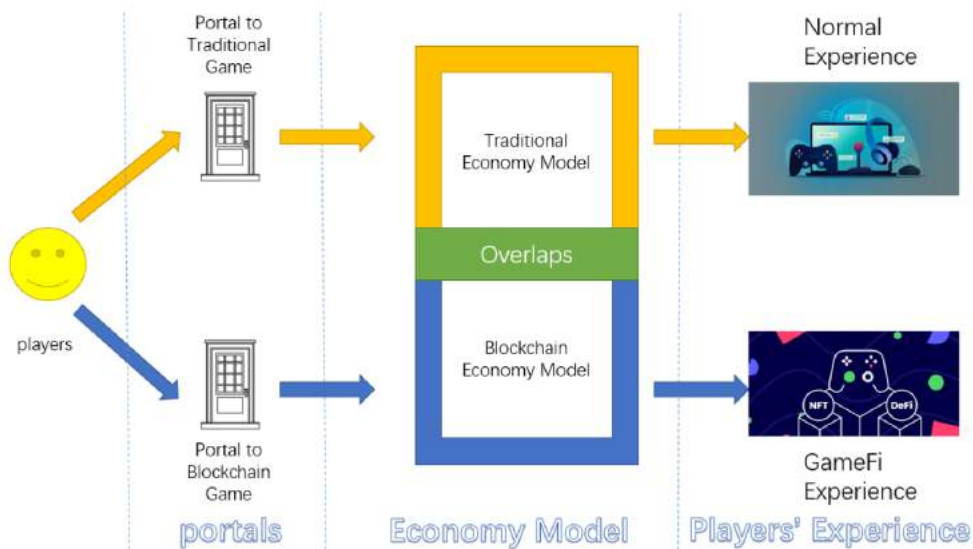## ※A new game type: TOB (Traditional or Blockchain Game)

Figure 4. A new type of game named TOB

"Traditional or Blockchain Game" also known as TOB game, refers to a new type of game that is compatible with both traditional games and blockchain games (a concept proposed for the first time in this paper). This type of game provides users with two different game entry points. If the user chooses the "traditional game portal", the user will get the game experience of a traditional game; if the user chooses the "blockchain game portal", the user will experience the Blockchain game mode complete with a token economy model and NFT. Depending on the specific design and technical structure of the game, traditional players may play on a centralized server, while players with crypto could send the game assets on-chain. The TOB type of game contains two economic models – "traditional game economy" and "blockchain token economy", reuses other parts of the game, such as modeling, and provides players with a choice of game experience for both the "traditional game" and "blockchain game" markets. TOB games will be a "handshake" between traditional games and blockchain games, as well as an excellent channel for the transition of traditional players to blockchain game players. They have the potential to be well-received and widely played.
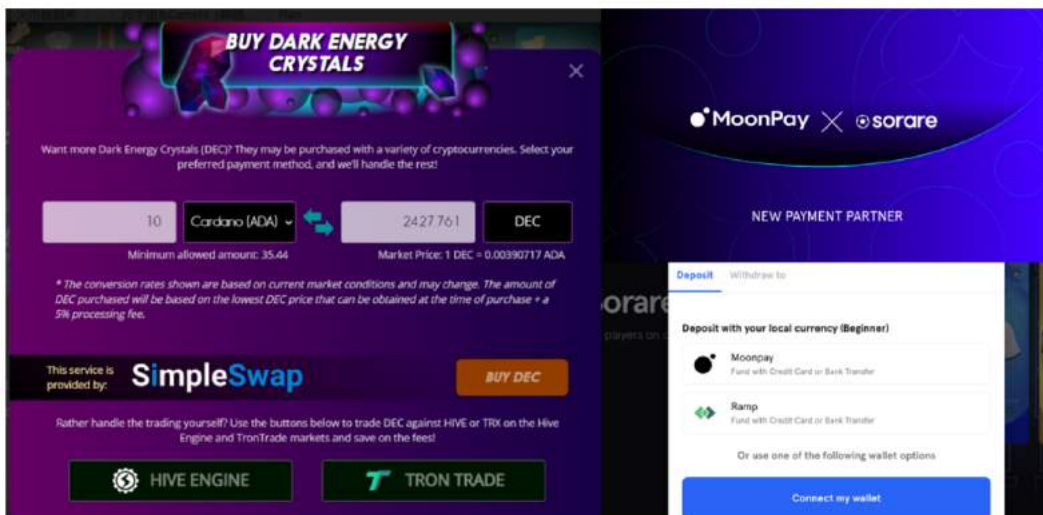

Figure 5. The decentralized exchange, SimpleSwap,
as well as the payment platforms MoonPay and Ramp, are complementary with blockchain games

In fact, there is sometimes no clear distinction between the traditional player group and the blockchain player group, and many traditional players will be attracted by the wealth-gaining element in blockchain games or may choose to embark on the cryptocurrency experience out of curiosity. The exchanges and payment tools that are incorporated within a blockchain game can thus help gain new user traffic, a positive effect for blockchain games.

Figure 6. Splinterlands Activity

Splinterlands is a blockchain card game on the HIVE chain that imitates the Blizzard classic named "Blizzard Legends". Since the COVID-19 outbreak in August 2021, the number of Splinterlands users has been rising; its average daily user number stood at about 300k in October 2021.

A feature in the design of Splinterlands is worthy of attention. In Splinterlands, there are three kinds of assets, namely, the "gold coin", which has nothing to do with the blockchain, the game token "DEC" (commonly known as Dark Energy Crystal) on the blockchain, and the governance token "SPS". Players who wish to enter the Splinterlands gamescape have a variety of options for doing so. Players can not only log in to the game by connecting MetaMask wallets and purchasing assets in the game with cryptocurrency, but can also register for accounts using their e-mail addresses. After entering the game, players can recharge their "gold coins" in the game through PayPal. In other words, Splinterlands's economic model allows for both the "traditional game economic model" and "blockchain token economic model".

The two types of entry points cater to both traditional players and Blockchain game players, which will likely widen its user base. Such an operating model will allow for Blockchain games to integrate more deeply with traditional games in the future to meet the needs of players seeking different game experiences.

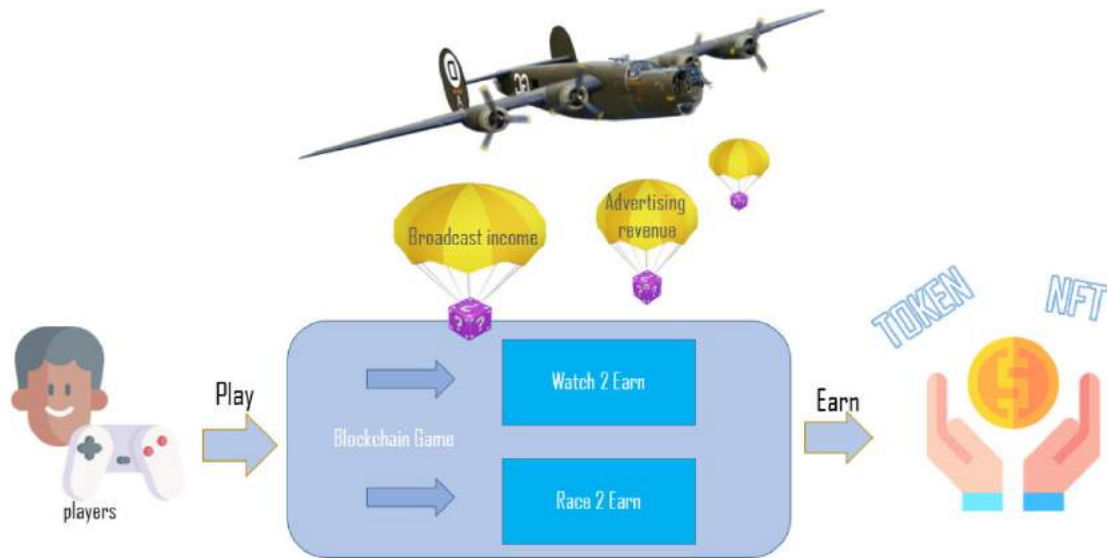## ※ Dawn of Free to Play to Earn (F2P2E) games

Figure 7. A new type of game: F2P2E

F2P2E is a combination of the Free to Play element in traditional games and the Play to Earn element in blockchain games. Users can play this type of game for free without buying an expensive NTF, and the entire game is supported by paid content and other external income sources such as advertising and sales of live streaming rights (which will be explained in greater detail later). One of the key features of Sorare, the fantasy football NFT game, compared to Axie Infinity, is that users need not buy NFT to play. Instead, the system will give players a starter pack of cards to allow them to start the game at "zero cost". Although this model can reduce the entrance threshold for users, it will require the business model of the game to be structured such that sufficient revenue is generated to cover operating expenses and also achieve a return on investment.

2. From an economic model perspective

Current single "Play to Earn" Blockchain games function like a Ponzi scheme, using profit from newer players to pay for previous players' earnings. Such a model is obviously unsustainable, which is one of the reasons why blockchain games have been criticized. There is no denying that "Play to Earn" is an attractive incentive which can help games quickly engage players earlier on and accumulate users, but it cannot solve the problem of game sustainability, which leads to the current short cycle observed for games operating under such a model. Despite all the measures taken by Axie officials, Axie Infinity's token SLP has fallen by nearly 95% in value from its peak price, and daily UWA (the number of unique wallet addresses) has dropped to 22,000 from a peak of 63,000.

However, in the complex world of game economic models, it is not only system output (items acquired by players through the game), upgrade mechanism, synthesis mechanism, loss mechanism, but also "system increment" that provides fresh capital inflow. These "system increments" roughly include two parts, one being funds from "player recharges (players that add funds to their in-game accounts)" that enter the game and the other being "external" funds, such as possible future advertising revenue and the realization of streaming rights. Based on this classification, the following new economic models may emerge in Blockchain games in the future.

(1) Incremental players' top-up funds

※ Social To Earn

Social To Earn is a new mode in Blockchain games in which players rely on social interactions to gain token revenue and help proliferate the game. In the new Social To Earn model, players receive a reward in the form of tokens for every new user they invite to the game - the more users invited, the richer the token reward.

(2) External Funding

※ Watch To Earn

Watch To Earn is a new model that achieves advertising traffic based on blockchain technology and then rewards the entire community through token value appreciation. Data about players' online habits, such as whether players watch in-game ads, how long they watch the ads for, whether they consume through the pushed ads, which ads they spend on, and how much they consume, etc, are all recorded on the blockchain in an authenticated manner. The immutable characteristic of blockchain enables players, game project parties and advertisers to take part in a credible new advertising system, making for more accurate distribution of benefits to all parties involved.

Advertising revenue will increase game sustainability and prolongs its lifecycle, encouraging its current and future development.

With such a model in place, advertisers will benefit by only paying in accordance with effect and efficiency, versus traditional advertising models. Moreover, advertisers can also choose to buy tokens directly to become a member of the game's ecosystem. Tokens can not only be used to reward players who watch ads, but be allocated towards community governance.

For players, the new advertising model would provide personalized token incentives, because the more ads they watch, the more they stand to gain. Players can also choose to not view any ads and not receive any corresponding rewards.   This helps avoid having too many advertisements in traditional Free to Play games that often lead to the decline of game experience and loss of users.

The advertising mode of traditional games is centered around exempting advertising from players who are willing to pay the fee, and then packaging the remaining players to the advertising distributor, achieving advertising revenue. The new Watch To Earn advertising model, however, makes players take the role of both participants and contributors. The revenue from advertising will go to the whole community and be shared by players and project parties. In the future, with the development of tracks such as DID (Decentralized Identifier), users' profiles will be depicted more accurately while still protecting privacy, so as to improve upon the accuracy and efficiency of advertising ventures

※ Race To Earn

Race To Earn refers to the new mode of holding E-sports related events, selling live streaming and broadcasting rights as a new revenue generating method, and then rewarding the entire community through the appreciation of token values. Popular traditional games can sell streaming and broadcasting rights whopping prices. For example, Twitch bought the two-year live streaming rights of the Weekly Vanguard League for US$90 million in 2018, and Huya won exclusive LPL streaming rights for five years in April 2001 for 2 billion RMB (US$314.68 million). In the future, revenue from this segment will reward the entire community, including players, in the form of tokens or buybacks. Such community benefits will encourage other players to participate in the game's activities, allowing streaming and broadcasting rights to be sold for higher prices, prolonging the lifecycle of Blockchain games.

Overall, new sources of income will increase the longevity and sustainability of blockchain games.

3. From a game release perspective

Future Blockchain games will rely more on Decentralized Autonomous Organization (DAO) to raise funds or even form a new game economy centered around DAO. DAO is a game community that participates in a game's ecosystem and self-governance, and could include players, project parties, investors, advertisers, developers and so on. DAO will also be divided into smaller organizations such as subDAO. According to the degree of participation, players can be categorized according to different participation levels: participant, contributor, core team member, leader and so on. A real self-governing DAO will have its own set of governance rules, which each member will pledge to uphold.
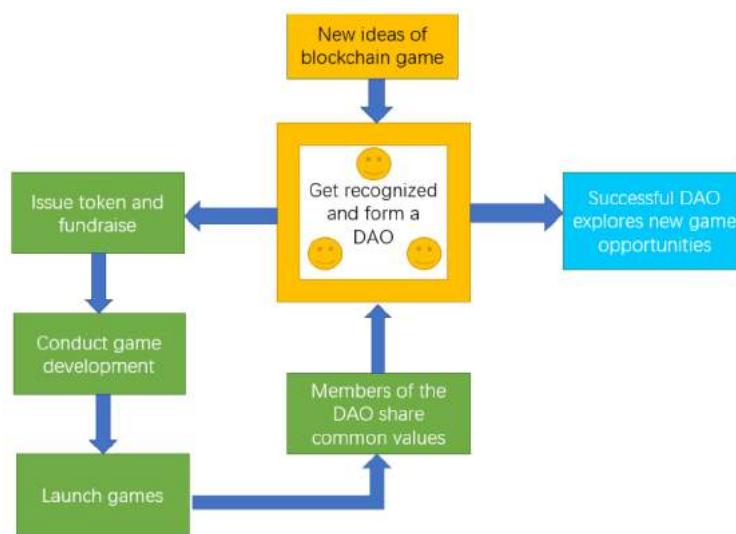

Figure 8. How DAO matters in Blockchain games

The process of DAO gradually replacing traditional enterprises may be first realized in gaming worlds. Game DAO may become a strong competitor to traditional gaming giants in the future, and play active roles in the release, production, investment, sales and other aspects of a game. In future, players with the same gaming aspirations could form a DAO to fulfill their goals by issuing coins for financing and implementing self-governance, also recruiting employees and teams for game development. After the game is launched, benefits for the entire community can be realized through the appreciation of tokens, and treasury assets can be allocated toward game expansion, transformation and upgrading and investment in related games.

As a DAO would be initiated by players, they would have a vested interest in its well-being. DAOs will have sincere motivations to meet player needs and ensure a loyal user group from the beginning. Also, by sharing interests with the community, it can make players (especially core players) masters of the game and community, rather than simple buyers of game products. This qualitative change in self-identity will make players regard the game as not merely a commodity, but as part of their assets. By seeing themselves as shareholders rather than consumers, the enthusiasm and initiative levels of these players will be sustained.

Although DAO holds many advantages and plays an important role in Blockchain games, a DAO can also present problems internally. People could commit fraud in the name of DAO by raising money on the pretext of developing a game, with no tangible, visible result to show for it. Pertinent questions that should be asked include:

• "How to govern DAO",

• "Are there any rules for DAO",

• "Who will make the rules",

• "Whether to strictly follow the rules to implement voting decisions",

• "Who will manage DAO",

• "Who will supervise DAO",

• "How to ensure the safety of treasury funds",

• "Who will assume responsibility for governance failure",

• "How to ensure the freedom of speech in DAOs"

The above are all issues that need to be considered. In addition, the development of DAO relies on some infrastructure advances such as Snapshot. All in all, although DAOs have a promising future, the concept still contains many imperfections and has a long way to go.

4. From a Blockchain Games Promotion perspective

In emerging countries such as the Philippines and Thailand, the model of using community managers to promote players based on a scholarship program such as Yield Guild Games (YGG), a play-to-earn gaming guild, still applies.

However, in countries with a high degree of digitization, such as the United States and South Korea, there may be more modern game promotion channels. "Game Live" is a new channel for the promotion of games. And new games which are deeply integrated with live streaming features will emerge in the future.

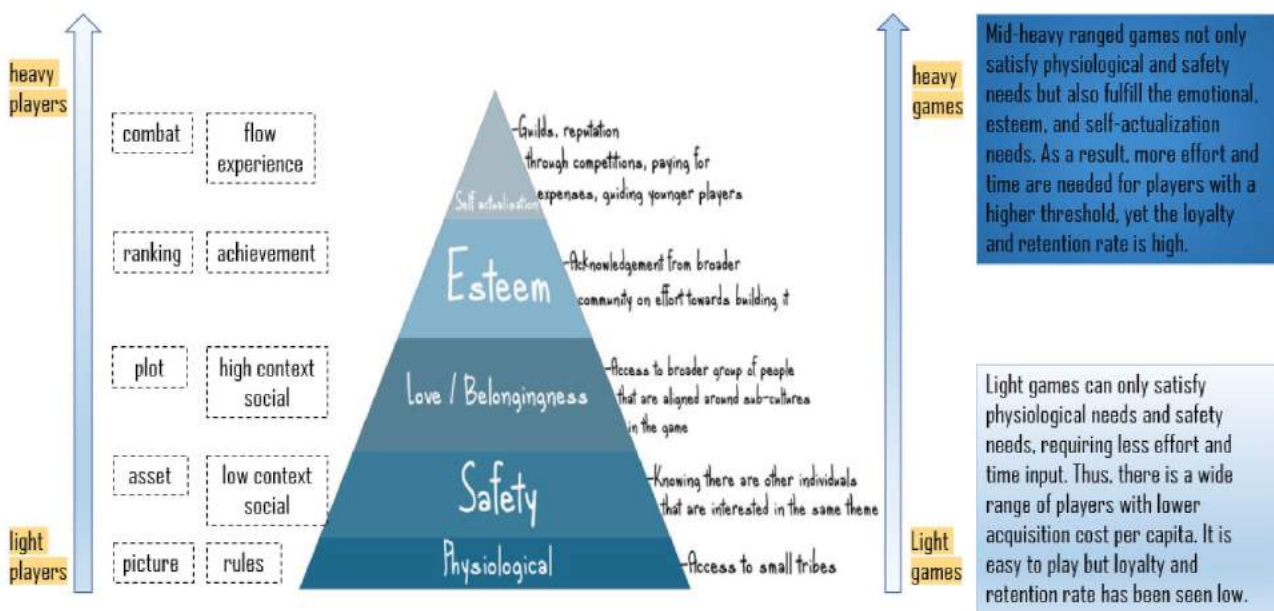# 5. Differentiation and choice of players

Figure 9. Maslow's hierarchy of needs theory describes the motivation of traditional players

The arrival of the Blockchain games era has not only given players more choices, but also led to differentiation among players. Players of traditional games can choose to buy the game directly or pay for the game indirectly through in-game advertising according to their own wishes. In addition, players in the traditional field only pursue the playability of the game, which is usually one-dimensional in nature. Maslow's hierarchy of needs theory describes the motivation behind traditional players' desire to play a game. Players who only pursue a simple game experience or to pass time are regarded as "light players", while those who wish for the game to   meet deeper psychological needs or expect recognition and self-realization from the game are "heavy players". We can use this as the "horizontal axis x" to depict the player's demand for playability, to be more specific, "physiological need" (-2), "safety need" (-1), "emotional need" (0), "esteem" (1), "self-actualization" (2).
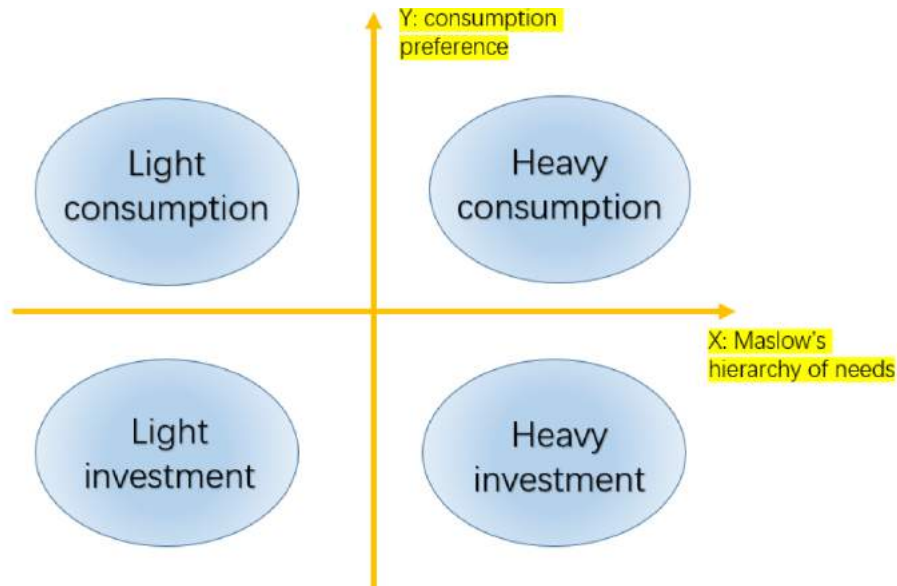
Figure 10. Players were divided into four groups by X axis and Y axis

The emergence of Blockchain games allows players to pursue a more multi-faceted gaming experience.

First of all, the token model and NFT aspects of Blockchain games give players economic incentives to change their identities from that of a simple consumer to one that is more akin to a shareholder. Players are no longer limited to changing their consumption levels of the game, but also have the opportunity to get income, so we can add a "vertical axis y" to describe the player's consumption tendency. This can be divided into five different grades: "heavy pursuit of profit"(-2), "mild pursuit of profit"(-1), "nothing to ask for"(0), "light consumption"(1) and "heavy consumption"(2). The crisscross of the X axis and the Y axis proceeds to divide the players into four groups:

※**"Heavy investment players:** these players are heavy users of the game. They not only value the emotional support and sense of value brought to them by the game, but also hope to gain income and reward through P2E exchanges. They will invest a lot of time in the game and have a strong impulse to cash in. They are more likely to become "professional gold farmers" who make a living by making real-life money from the game, and have limited funds to invest in the game. Instead, they rely more on manpower and time to obtain cash from the game, adopting a strategy of "playing, lifting, and selling".

※**"Heavy consumption players:** these players have no economic demands of the game and hope to meet their emotional needs through consumption. While such users participate in the game, they also bring new capital increments to the game and contribute to the Blockchain game's business model.

※**"Light consumption players:** these players are not particularly dependent on the game itself. They do not have much interest in making money from the game, and certainly do not buy too many Blockchain games assets but focus on the gameplay experience. However, they are still Blockchain games users and participants though their contribution to the business model is limited.

※**Light investment players:** these players are less interested in the way they play and operate the

game, and attach more importance to the gaining of tokens and the future rate of return on investment. These players spend less time in the game. They would usually buy a certain amount of game assets in the early stage, invest more capital instead of time in the game, and later sell the assets to achieve their ultimate goal— profit.
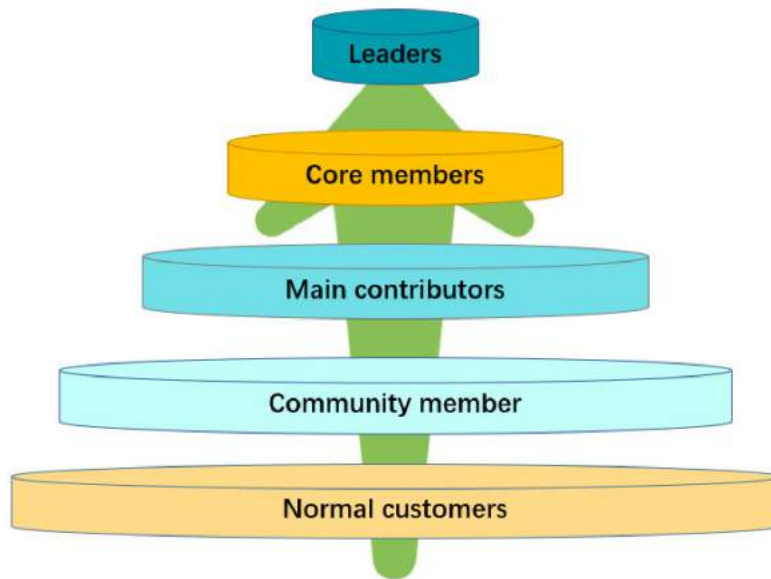

Figure 11. Axis-Z (Players' participation in the ecosystem)

In addition, players are also members of the game community, with the possibility to participate in the game ecology. Players can give advice, promote the game, create, and even become members of the core team, contributing to the development of the community. We can use the Z-axis to describe the role and participation of players in the community. According to level of player participation, players can be divided into five levels: user (0 point), community member (1 points), contributor (2 points), core team members (3 points), and leader (4 points).
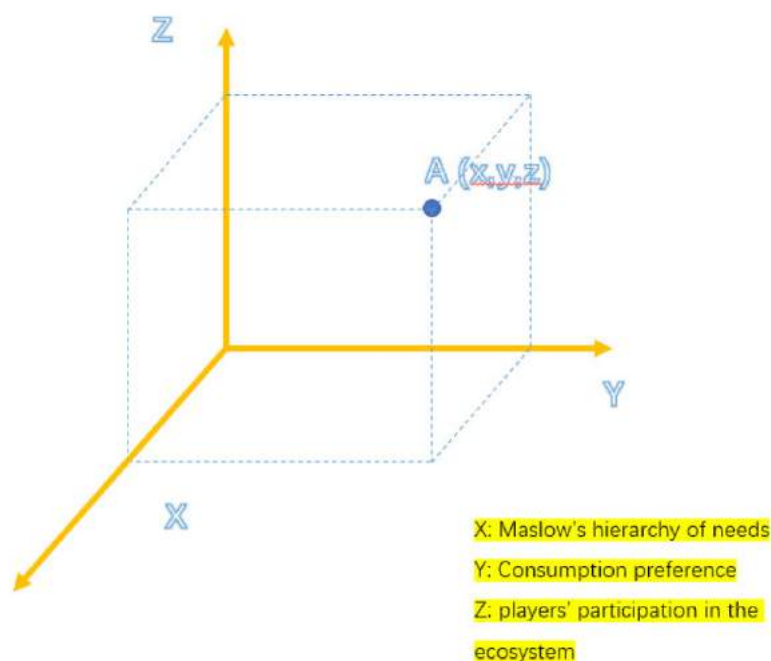

Figure 12. Cartesian coordinates of players in blockchain games

Through the division of X-axis, Y-axis and Z-axis, the role and function of players in the whole Blockchain games ecology can be clearly located. As shown in the Cartesian coordinates, point A lies in (1,2,2), representing a position of player A in the gaming ecosystem as (esteem, heavy consumption, contributor).

Investment players may be the fastest group to enter the game's ecosystem, but Consumer players make the greatest contributions to capital inflow increment; Heavy players are very important for prolonging the entire game cycle, and have limited contribution. Heavy consumer players would form the core player group. From a user acquisition perspective, in the initial stage of the game project, some economic incentives can be used to help the project start, and most of users would be investment players. However, the playability of the game determines how many core player groups the game itself can attract, and also determines the life cycle of the game, which should be the focus of the work in the middle and later stages of the game project.

6. Changes in user experience

Plato Farm is a farming game on Ethereum and HECO. Different from other farming games, Plato Farm integrates a "one-stop service" in the game, so that players, especially those who have come into contact with Blockchain games for the first time, avoid the time cost and complex operation process of learning to use cryptocurrency wallets, lowering the threshold for users and giving users a better gaming experience. Many Blockchain games have also adopted the option of allowing users to register accounts that automatically create "on-chain addresses" and "private keys" for players on the chain, after which players can choose to get their private keys back or continue with storing their private keys on-chain.

In the future, with the development of blockchain technology and the improvement of infrastructure on the chain, there will be one-stop service components for game developers to aid the user onboarding process. The component will allow chain developers to complete the user's account registration, address generation, signature verification, asset management and other functions in the form of a string of code, reducing repetitive work and development costs, in a bid to provide users with a smooth gaming journey. The developer of such a one-stop service component could be the releasing platform for the Blockchain game, the official development team, or the exchange. A well-developed one-stop service component will bring more user traffic in the long run.

7. From the Blockchain game platform perspective

Although decentralization is the spirit of blockchain, the development of Blockchain games is still in its early stages, and the existing releasing platforms of Blockchain games, such as Gala and Axie, are trying to build exclusivity into their ecosystems. Axie has developed its own blockchain named Ronin, and Gala is testing GYRI, its main network for P2E. Each GameFi platform wants to be the Steam equivalent in the Blockchain games industry (Steam, as a leading traditional game releasing platform, accounts for about 65% to 75% of market share and earns a sizeable 30% profit off each game sold). Therefore, leading blockchain game projects will likely occupy more than 50% of market share.

• **Secondary NFT trading market for game assets:**

The current NFT sales platforms are mostly comprehensive trading platforms such as OpenSea and Rarible. However, with the growing popularity of Blockchain games, the market share of game asset NFTs will gradually rise in the future and may even separate from such comprehensive platforms and form an independent, secondary market.

• **A new game matching platform:**

Builds on traditional games but incorporating token incentives. Instead of switching to another blockchain game, players can play traditional games while receiving tokens and even make cryptocurrency bets on the outcome of the game. Such a platform would save developers the cost of developing new blockchain games, allowing players to transition from traditional games to blockchain games at zero cost.

8.From the perspective of game developers

The combination of blockchain and games puts forward new requirements and challenges for game developers, as well as new means and opportunities.

※**"Changes in the way in which revenue is obtained:**

The new revenue method no longer depends on the sales of individual game products. Instead, it depends, firstly, on the initial NFT sales and the royalties from subsequent NFT transactions. Secondly, the share of tokens owned by the team involved with the initial distribution of a Blockchain game will increase in value with the expansion of the community and the development of the game's ecosystem.

The biggest source of revenue for Sandbox, the Meta-universe game giant, is virtual land NFT, which has so far sold about $80 million worth of virtual real estate, accounting for 70% of its total land, while the remaining 30% will continue to be sold until the end of 2022 and the beginning of 2023. NFT resales, including virtual land, will be charged a 5% royalty by Sandbox.

All in all, the revenue generating model for game developers has completely changed. In the short term, developers can make a profit by relying on the FOMO (Fear of Missing Out) sentiment brought about by the project and market expectations for its future. In the long run, developers' incomes will come from the game's development and progress.

※**Change of game operation mode**

In addition to the traditional game operation mode, Blockchain games provide the game project party with the possibility to attract players to join the game through their token economy, such as TVL and pledging, requiring developers to pay attention to not just the game quality, but income of users in the game's economy.

Meanwhile, it would also be a new mode of operation to delegate a certain amount of governance to players to kickstart the governance aspect in DAO.

Conclusion

There are currently about 3 billion game users out of the approximately 7.9 billion strong world population, and this proportion is expected to grow in accordance with global digitization. Meanwhile, the traditional game market reached US$175.8 billion in revenue in 2021. The blockchain, as a new technology that is already disrupting the financial industry, will also change the way players interact with games. The combination of games and blockchain does not merely signal a slight alteration in the traditional game industry, but rather, a great change of the times, well worth pondering for every game practitioner and player.

THE END