waves

A brief overview

BLOCKCHAIN TECHNOLOGY IN GAMING

TRADISYS

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INTRODUCTION

The gaming market currently represents the largest segment of the global digital content industry, generating billions of dollars in revenues annually and attracting an extremely wide audience. The gaming industry is also one of the business areas in which blockchain technology is most rapidly being implemented.
As developers of technical solutions and trading algorithms Tradisys, the authors of this report, have detailed insights into both the technology and economy of blockchain in the gaming industry. The following overview and conclusions draw on their deep experience of established and emerging trends in gaming and blockchain.

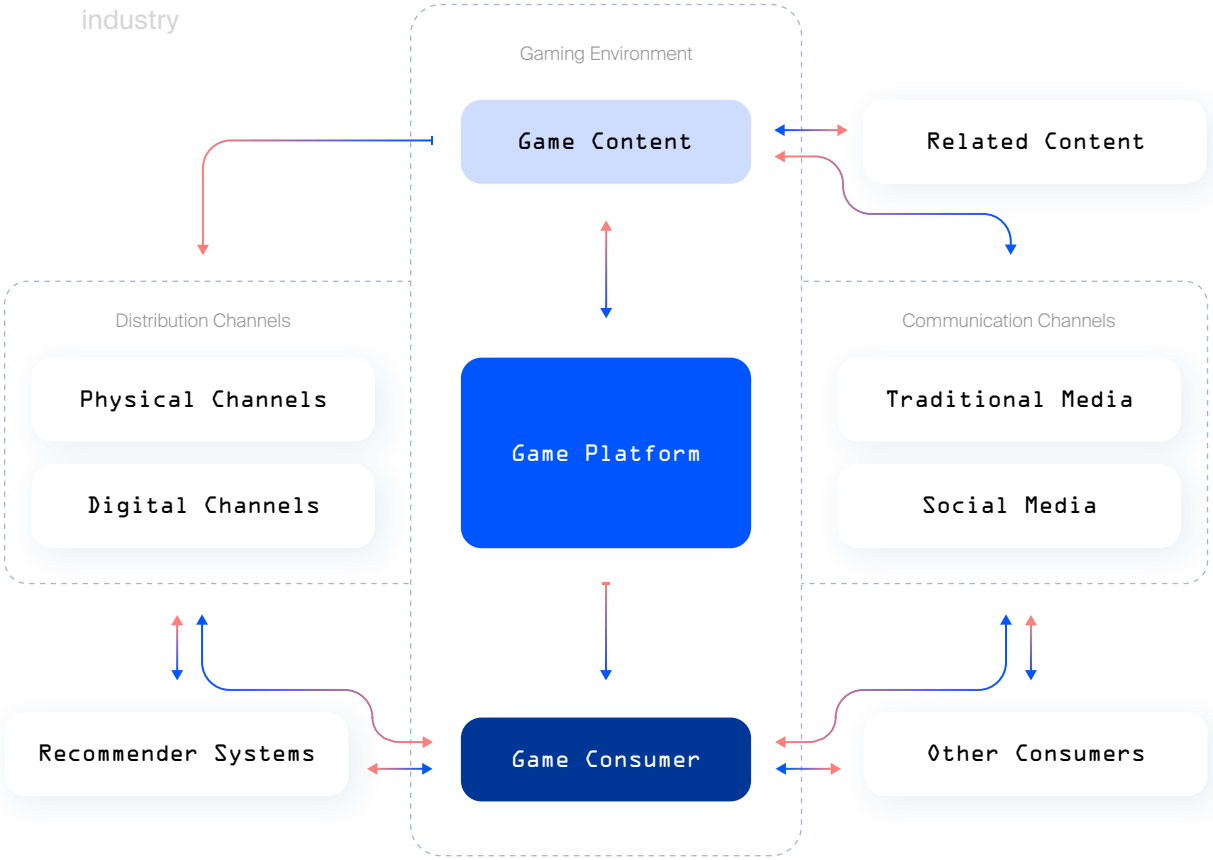
CHAPTER 1

THE GAMING INDUSTRY AND BLOCKCHAIN

1.1. Process of value creation in games

The diagram below illustrates how value is created in the gaming market:

Fig. 1. Value streams in the gaming industry



Let's focus on the vertical path representing the overall gaming environment: a platform's members and consumers, and the connections between them. As shown in the diagram, Game Content is separated from Game Consumers only by the Game Platform. The task of any service provider is to satisfy the needs of game consumers.

The traditional borders between games, media, sports, and communication are disappearing fast, creating new business partnerships and causing ever more mergers and acquisitions across the globe.

The game Second Life, which features an in-game currency, was an important example of this process between 2003 and 2006. Players in many countries would quit their jobs and devote 100% of their time to the game. According to some data, over 80,000 people stated in job interviews that Second Life should be considered work experience and listed it on their CVs. Such social shifts resemble the attitude of Star Wars fans who list 'Jedi' as their official religious affiliation, even though the Jedi religion was invented by George Lucas.

This phenomenon has been studied for almost 10 years in the US and is known as game addiction, a specific type of impulse-control disorder. For the purposes of this research paper, we will consider such cases extreme. Another extreme case is the total absence of knowledge or understanding of computer games.

US researchers have identified a range of so-called "core drives" (CDs) that compel players to return to long-forgotten games and to discover new ones. These drives function regardless of the player's nationality, gender, religion or age.

Examples of core drives include:

- **Social Treasure** – CD 5 social relatedness & feedback – this concept was implemented by the game Candy Crush, which used social network invites to grow its audience from 400,000 to 12 million between 2010 and 2014.

- **Social Prod** – this approach is used by LinkedIn, with its system of endorsing

other people's skills. It helped expand the user base more than fourfold in just two years. The idea is simple. One only needs to click on the 'plus' sign next to a skill on another user's profile – a minimal social action that takes no more than a second. However, at a future date, this endorsement can help the recipient gain their dream job. Thus, those who receive a "plus" to their skills feel obliged to

thank the endorser by confirming their skills in return. The same concept underlies the emoji reaction system on Facebook, which helped the social network recover users who had previously uninstalled the application. Some data suggests that upgrading the “like” system on Facebook allowed the network to attract back some 40 million users who had switched to other networks, including LinkedIn.

- **10,000 Hours of Play = 10,000 Hours of Expertise** – this thesis, developed by a group of European researchers, suggests that 10,000 hours of practice are required to master a skill. Computer games skills (including eSports) may therefore be considered mastered after 10,000 hours of playing, similar to a black belt in martial arts.

1.2. Current state of the gaming market

The first computer games were developed in the late 20th century with the sole purpose of entertaining their audiences. One of the early goals was to distract players from their routine work and provide them with access to a fantasy world. Very soon, games started competing for users’ time against traditional forms of entertainment such as cinemas, circuses, theaters, zoos, etc.

Planet Earth entered the new millennium with a population of over 6 billion people, and experts predict that the figure will reach 8 billion by 2023. If we assume that computer games will cease to be an alternative to work and instead become complementary to it, then by that time there will be 4 billion gamers in the world.

According to data from late 2018, approximately 2.2 billion people play computer games daily, but only one-third of these (0.73 billion) purchase games legally.

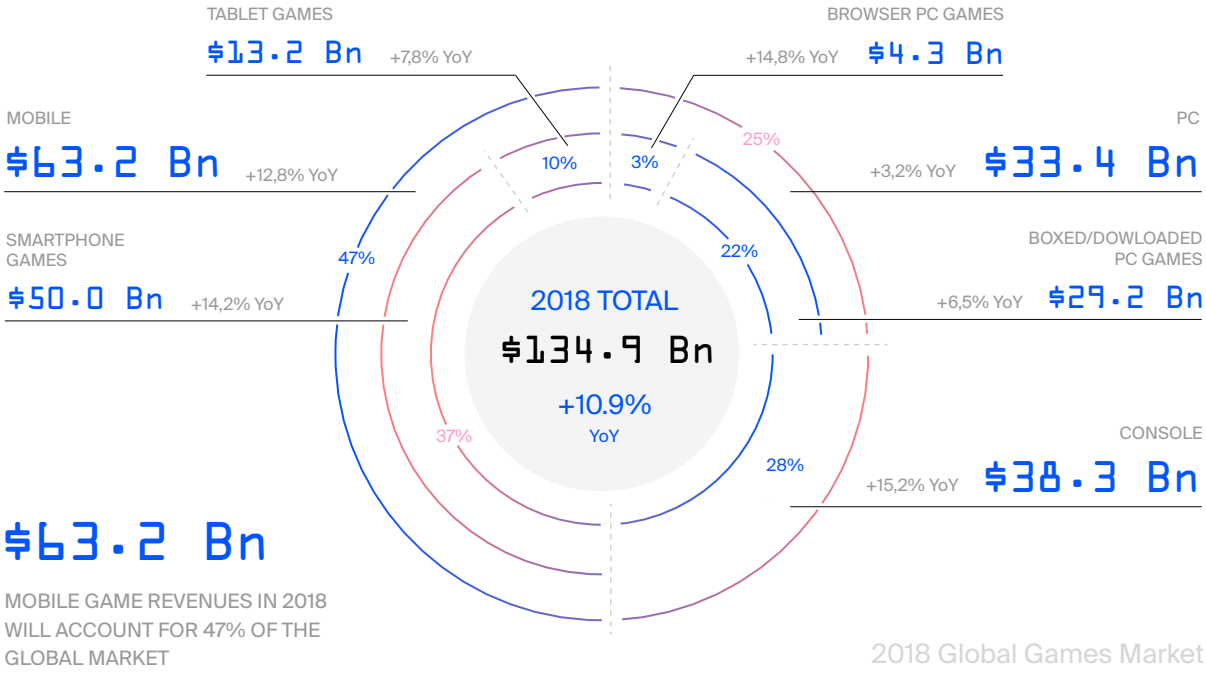
According to a Newzoo report, global gaming revenues for 2018 were around $134.9 billion, 10.9% more than for 2017.

Digital distribution channels account for most of these revenues. Mobile games

act as the key growth driver in the gaming industry, with a projected growth rate of 12.8% for 2018, taking that segment to $63.2 billion. At the same time, the forecast for overall retail sales of games is only $12.4 billion, or 9% of the whole industry.

As for game development trends, the State of the Game Industry 2018 report shows that games for desktop still retain leadership: 60% of developers work on PC games and plan to continue working in this segment.

It is worth pointing out that PC games occupy about one-quarter of the global market for video games ($33 billion a year). By 2021, revenues from the sale of PC games is projected to rise by more than a billion dollars, at a CAGR of 4.2%.



$63.2 Bn

MOBILE GAME REVENUES IN 2018 WILL ACCOUNT FOR 47% OF THE GLOBAL MARKET

2018 Global Games Market

The game development industry has experienced a profound transformation in the past five years. With the appearance of mobile app stores and digital distribution platforms, even smaller studios have gained the ability to create games for the global market.

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[1] https://www.statista.com/chart/4527/game-developers-platform-preferences

China remains the largest regional segment both by revenues and number of players, accounting for over a quarter of all sales. The Asia-Pacific region as a whole offers the highest profits and the fastest growth rates.

The introduction of new technologies, such as AI, VR and blockchain, remains one of the key market trends. In the past several years, numerous blockchain-enabled gaming apps and services have appeared, and the number of such projects is expected to grow further.

At present, the market share for blockchain gaming is small, but its growth potential is significant.

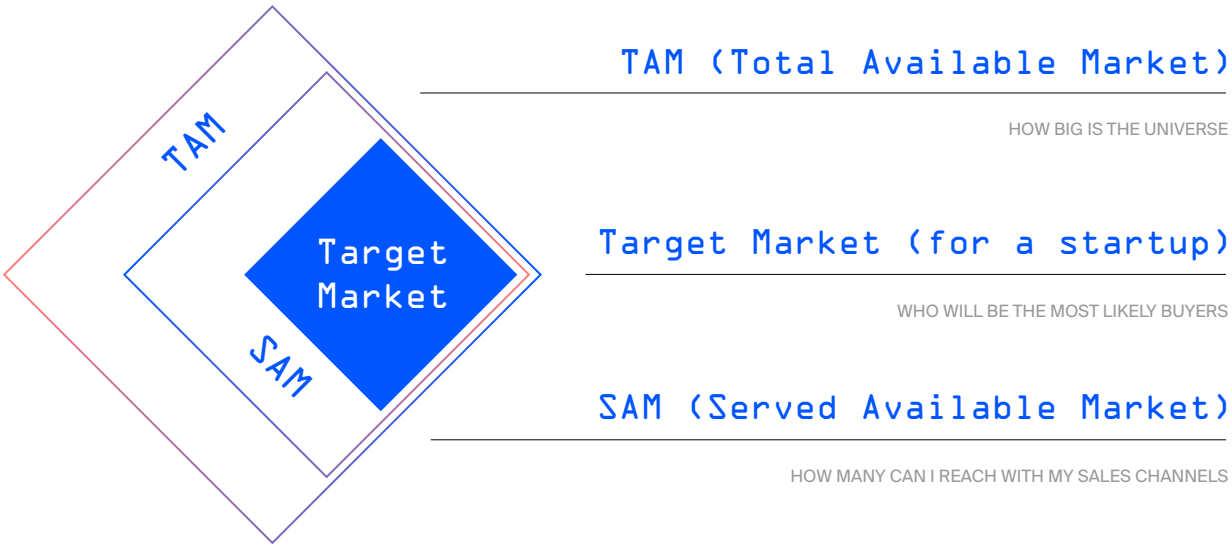

Fig. 3 Target market size definitions

Based on the statistics for late 2018, approximately 2.2 billion people play games on a daily basis, one third of whom, or 0.73 billion, purchase games (Assumption 1). Thus, 0.73 billion can be taken as the starting point for TAM in 2018, and this figure is projected to be 1.33 billion by 2024.

In this case, TAM represents the total number of potential clients – the goal for all creators of gaming platforms or related services, such as those who sell access keys to games.

The served available market (SAM) for a potential new marketplace can be calculated as a quarter of the TAM, or 325 million people by 2024. At the same time, the target market (TM) constitutes one-third of the SAM, or 108.33 million people by 2024.

Considering the differing working conditions and salary levels of many countries, it is unrealistic to assume that all users who fall into the TAM category will become marketplace clients. There are many ways to to access games, including torrent trackers and other illegal content distribution services. The present study will not focus on illegal content channels.

1.3. Blockchain applications in games – a short summary

Blockchain technology opens up many opportunities for the mobile and computer gaming market. Moreover, games of any type and genre can benefit from the integration of cryptocurrencies.

The history of blockchain gaming begins with HunterCoin, launched in 2014. The purpose of the game was to collect HUC coins, also known as human mining. Unfortunately, as the number of users grew, the blockchain became larger, causing processing speed issues. As a result, any action currently taken in the game is now subject to long delays: processing one player move can take up to five weeks. Downloading the necessary software and signing in is also difficult. At the time of writing, HunterCoin remains the only fully autonomous and decentralized blockchain game.

More recent crypto games have been built using existing platforms including Bitcoin, Ethereum, Graphene, EOS and TRON, integrating blockchain technology into the gaming process. The service DappRadar, which tracks the popularity and

user numbers for various crypto games based on Ethereum and EOS, lists 387 Ethereum-based and 28 EOS-based projects in the Games category as of January 30, 2019, together with 330 projects on Ethereum and 190 on EOS in the Gambling category.

#	Name	Category	Protocol	Users 24h	Volume 24h	Txs 24h	Activity 7d
1	PRA CandyBox	Other	EOS	9k -4.87%	$0 0	30.839k	
2	Epic Dragons	Games	TRON	6.4k +8.43%	$9.6k 347.1k +99.50%	6.699k	
3	EOS Knights	Games	EOS	5.8k +1.18%	$10.1k 4.4k +14.84%	243.182k	
4	ENBank	Other	EOS	5.8k -0.96%	$0 0	33.32k	
5	PLAY GOC	Gambling	TRON	4.3k +10.95%	$6k 217.8k -0.39%	9.531k	
6	Crazy Dogs Live	Gambling	TRON	3.6k +10.00%	$44.5k 1.6M -0.91%	19.495k	
7	ALLBET	Gambling	TRON	3.2k +6.17%	$1.5M 55.4M -1.46%	34.524k	
8	TRONbet	Gambling	TRON	3k -0.40%	$3.9M 139.3M -21.18%	329.803k	
9	BIG GAME	Gambling	EOS	2.9k +165.94%	$168.5k 73k +48.25%	12.386k	
10	EOSBet	Gambling	EOS	2.9k -1.95%	$768k 332.4k +395.20%	152.235k	

Picture from https://dappradar.com/rankings

Most blockchain game developers now tend to choose Ethereum, EOS and TRON, due to its popularity and network effect. Some developers try to repeat the success of their predecessors by copying already tested algorithms, while others simply integrate the increasingly popular blockchain technology into existing games.

Game creators continue to search for new growth possibilities, trying to attract, surprise and hook users. In September 2018, nine companies in different business areas, including game developer Ubisoft and crowdfunding platform Fig, formed the Blockchain Gaming Alliance, with the goal of creating an open forum for discussion and collaboration in the field of blockchain gaming. The main purpose of the alliance is to support the creation of a universal gaming standard for blockchain technology, which would promote a more transparent market ecosystem.

1.4. Economics of crypto gaming

Blockchain is best suited for games that implement real monetary value that can be expressed in cryptocurrency units. By issuing blockchain tokens, gaming companies can add new features to in-game currencies and allow players to trade them on digital exchanges. Since cryptocurrencies can be traded both on and outside of exchanges, it becomes possible to launch crowdfunding campaigns using game currencies. The necessary link between the internal economy of a game and that of the real world is provided by exchanges and P2P transactions.

Blockchain technology expands gaming possibilities because each block in a blockchain is unique. If we start using blockchain in game development this can help create more unique objects and artifacts and make the player experience more individualized.

> **Example**
> **By using blockchain and photos of a player uploaded to the system, one can create a unique character that resembles the player, cannot be recreated or falsified by others, and can migrate from one game to another. This idea has already been implemented in Mass Effect by BioWare, where characters from earlier parts of the original trilogy can be imported into the newer game. However, blockchain technology would enable this on a far larger scale.**

Blockchain can also solve a number of issues, especially for free-to-play games. Since traditional video games keep their source code hidden, developers can change it at will without the players' consent. Blockchain facilitates asset transfers between players and records the value earned by each player. The ledger contains a full record of all the achievements and earnings of a player. Using a transparent algorithm, a player can learn exactly how fast rewards are paid out of a treasure box, what their current weapon skills are, and whether developers are delivering on their promises.

In the past couple of years, games have begun to use blockchain features such as wallets and tokens to secure ownership of game artifacts. Players can be sure that

their ownership rights to objects and game money is secure: a record on the blockchain verifies the property rights and values of objects, both to their owner and to other players.

As game artifacts and assets acquire real value, players are motivated to invest more money in their favorite games, since they do not risk losing the objects they bought. A player can also exit the game at any moment and exchange their game assets for cryptocurrency. By selling objects collected in the game, they can not only regain some of the money spent on playing it but even earn a profit.

As stated by a recent report entitled **"Share of gamers who purchased or traded game items on the blockchain worldwide in 2018,"** 44% of gamers have either bought or sold a blockchain-based game artifact in the past 12 months.

When dividing existing crypto games into categories, one should first and foremost examine blockchain-based collectibles. In crypto collectible games, users buy tokens with specific visual features (characters, animals, stamps, cards, countries, etc.), hoping to earn a profit by selling them later. Blockchain is used to interact with the game.

In this type of game, blockchain ensures the following:

- Transparency (the history of each individual asset is easy to track)
- Security (it is impossible to steal a player's game assets, so long as he or she stores his or her private keys safely)
- Immutability (transaction history cannot be altered)
- Disintermediation (a player can transfer tokens to another without involving any intermediary)

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[2] https://www.statista.com/statistics/868326/gamers-purchased-traded-game-items-blockchain

The most famous crypto collectible game is the legendary Crypto Kitties.

Crypto collectible games can broadly be divided into two types. The first category includes games where players collect characters, and the second comprises games in which players collect cards. The rarer the card or the greater the advantages or powers it gives to a player, the higher its price. Apart from the collectible element, these games have real gameplay and a unique game universe.

Another type of game gives users wider possibilities for interaction with their blockchain assets, apart from simply collecting and exchanging them.

Finally, gambling games that use blockchain technology form a category of their own. We will examine blockchain-based gambling in detail in Chapter 3.

CHAPTER 2

MARKETPLACES

2.1. Definition

A gaming marketplace is an online space that can be accessed from any device to purchase (or otherwise access) gaming content or games themselves.

2.2. Historical background

Once games became downloadable, the gaming market began to segment. To limit our field of study, we can consider the creation of the Steam platform (https://store.steampowered.com) as the starting point for this process.

The first games to be distributed through the service, back in 1999 and by a team of enthusiasts, were Team Fortress and Counter-Strike. Almost 10 years later, the latter has become one of the most popular games in the eSports industry.

At the first Games Developers Conference three years later, on March 22, 2002, Steam received universal recognition. The Steam Community module was launched in 2007.

By that time, DRM (digital rights management) was one of the driving forces behind the development of the store, but as early as 2007 it began to attract criticism by the Steam Community. Not long before the original Bitcoin White Paper came out in late 2008, criticism of the supporters of the open distribution of games (including digital pirates) intensified.

At the same time, Steam considerably expanded its features:

- Developers were now able to react more quickly to the changing needs of the

gaming community (for example, by issuing free add-ons like Half-Life 2: Lost Coast) and to exercise full control over game distribution, since even retail boxed copies of Steam games had to be activated and fully updated via Steam.

- Users were able to buy games for other people or gift games that they had purchased for the second time as part of a collection and did not need themselves. For instance, owners of Half-Life 2 and/or Half-Life 2: Episode One could gift these games to someone else after purchasing The Orange Box collection. Gifts became the most popular way of buying Steam games through a third party by gamers who could not pay with a credit card. Such gamers would transfer money to an intermediary, who would then buy the game as a gift with a credit card and send it to the gamer by email or via Steam. Prices charged by some intermediaries are usually somewhat higher than the official Steam price. Sellers who practice carding (an unauthorized and rather complex method of obtaining games) often charge several times less ($5-10 per game), but in this case, there is a risk that the gift will be recalled and the user's Steam account will be blocked if the credit card owner discovers the transaction and cancels it.

- Owners of cyber cafes became able to establish partnerships with Steam through the specially-created CyberCafe system, which enabled unlimited use of most Steam games for a monthly fee. On June 2, 2015, Steam launched a system of refunds for purchased games (and most downloadable content, or DLC) if the user's computer did not satisfy the system requirements for the game or if the user simply did not like it. Refunds are possible only within 14 days and only if the user spent no more than two hours playing the game.

The almost 20-year history of the service and its current business results show that Steam is the most popular and successful of all existing gaming marketplaces. Besides Steam, a number of similar classic marketplaces exist, including Uplay, Activizion Blizzard, and others.

RANK	COMPANY	Q1 2017	Q2 2017	Q3 2017	Q4 2017	TOTAL 2017	CHANGE
1	Tencent 腾讯	$4,150M	$4,365M	$5,041M	$4,564M	$18,120M	51%
2	SONY	$2,318M	$1,965M	$2,487M	$3,302M	$10,072M	31%
3		$1,772M	$1,952M	$2, 185M	$2,128M	$8,037M	20%
4	Microsoft	$1,704M	$1,531 M	$1,619M	$2,209M	$7,063M	9%
5	ACTIVISION BLIZZARD	$1,656M	$1,569M	$1,522M	$1,766M	$6,513M	4%
6	NetEase Games	$1,650M	$1,449M	$1,247M	$1,230M	$5,576M	33%
7	Google	$1,202M	$1,272M	$1,242M	$1,630M	$5,346M	35%
8	EA	$1,527M	$1,449M	$959M	$1,160M	$5,095M	10%
9	netmarble	$644M	$506M	$545M	$577M	$2,272M	82%
10	UBISOFT	$779M	$243M	$317M	$870M	$2,208M	38%
11	NEXON	$664M	$418M	$536M	$467M	$2,272M	82%
12	NCSOFT	$165M	$208M	$641M	$444M	$1,458M	104%

The general principle of the operations of centralized gaming marketplaces is as follows:

- High share in the developer's profit: approximately 30% goes to the marketplace
- Complete monopoly of the operating system
- High barriers of entry to the marketplace

Moreover, it is extremely difficult, if not impossible, for a new conventional marketplace to enter the space.

2.3. Project categories

Gaming marketplaces can be divided into several categories:

- Centralized digital distribution platforms that sell games and in-game content offered by developers.

  In this scenario, only the platform creators act as sellers, and end consumers can

only purchase games and content. All new games need to pass strict pre-moderation by the creators of the service. In-game currency and artifacts are sold under the exclusive control of the developer; artifacts are not unique, and their prices are the same for all users. Publishing a product on such a platform is legally complex.

- Marketplaces where users themselves trade game access keys, artifacts and in-game currency.

  Such platforms allow end users to earn money by placing lots. Disadvantages of this model include unstable and chaotic supply and demand; the large number of similar offers, making searches difficult; and the lack of unified requirements for deals and anonymity.

- Mixed platforms that include features of both these types, allowing users to resell games themselves.

- Platforms offering a complete ecosystem for the whole gaming community. The main objective of such platforms is to attract all types of participant, keep

2.4. Blockchain: opportunities for marketplaces

The implementation of blockchain technology in gaming marketplaces opens up a range of possibilities.

As the industry continues searching for the most efficient ways to use blockchain technology in a gaming context, the idea emerged that a fully-fledged ecosystem would be the most convenient choice for all market participants: investors, developers, gamers, and marketing platforms. With its principle of economic decentralization, blockchain gives all members equal opportunities. When acting as investors, gamers will be motivated to support only those games that they themselves would like to play. This way, blockchain can solve the current issue of oligopolistic power exercised by large studios and create better conditions for small developers. Providing support to smaller studios will render the industry more varied. Furthermore, gamers will be able to test games, promote them, and

even earn money with them. Thus, the implementation of this new technology will create additional possibilities for investors and developers.

Here are a few examples of proposed decentralized gaming marketplaces:

> **Dmarket** – a specialized marketplace for gamers that uses blockchain and smart contracts. It will allow players to trade and exchange various virtual goods: in-game currency, artifacts, accounts, cards, achievements, skins, and games themselves. Such goods can even be traded for real-life objects. Moreover, the platform will offer secure use of in-game services.

> **Robot Cache** – a marketplace where gamers can resell a game they have finished playing, in return for cryptocurrency. The main idea of the project is to use blockchain to achieve higher flexibility and transparency in the market. Blockchain technology makes it impossible to duplicate goods. Thus, publishers will be sure that whenever a user tries to resell a previously purchased game, it will be the very same copy and not a duplicate. This blockchain-driven decentralization will help reduce the fees incurred by publishers and developers.

> **FLUX** – a unique, decentralized gaming ecosystem that brings together all interested parties in the industry. Players, sellers, communities, investors, and sellers of goods will be able to transform their gaming experience, earn profits, optimize the game development process, and support those who create real value.

> **Expload** – a platform for the development and distribution of decentralized games based on Expload SDK, a set of tools that allow developers to build blockchain games quickly and effectively using a template library, a visual environment, a legal cryptocurrency solution, and a new channel of distribution. The Expload store offers a wide range of classic and crypto games.

Everything that a user earns or obtains in any game, including unneeded loot and rare artifacts, can be sold on the marketplace for the project's own currency.

2.5. Methods for increasing conversion rates on potential marketplaces

The following methods can be utilized:

- Following the example of market leaders and their competitive advantages – in this case, platforms such as The Abyss and WAX.
- Creating a user area that tracks user behavior and applies predictive analytics and big data analysis, as on the Salesforce-driven Adidas marketplace.
- Designing a multilevel referral system to attract users' friends and acquaintances to the community in parallel with the traffic acquired via other channels;the community active, and motivate users to act in different roles (e.g., gamers acting as investors and large developers functioning as distributors for small, independent projects).
- Developing a user area based on gamification principles utilizing the Octalysis Framework, which enables the creation of a complex motivational framework that includes the eight basic drivers (intrinsic and extrinsic).
- Matching the UX/UI design to that of popular games like DOTA 2, Counter-Strike, WoW, etc., to create the experience of being inside a mini-game rather than just making a purchase in an online store.
- Combining online traffic creation and appearances at offline events such as Gamescom, E3expo, etc.
- Merging the concepts of a marketplace and a gamified learning platform, where users can be upgraded to a certain level in a particular genre of games

by watching video tutorials (“killer” for users who prefer shooters, “explorer” for those who play strategy games, etc.).

- Perfecting users’ journeys within the marketplace based on the categories of onboarding, scaffolding, late game, and end game. For example, new members can be awarded welcome bonuses and video tutorials on how to use the marketplace, recent users can be offered the opportunity to organize mini-contests, experienced members can be awarded honorary Master status, and so on.

- Developing a community module based on the principles used by the projects Steemit and Golos, where players can earn money for the likes/upvotes they receive for the content they offer on the marketplace.

CHAPTER 3

BLOCKCHAIN TECHNOLOGY IN ONLINE GAMBLING

3.1. Development of the online gambling market

According to a report published by British consulting company Juniper Research, the growing demand for digital products will drive the online gambling market to $1 trillion by 2022, with the total number of online gamblers exceeding 684 million.

Players do not even need to leave their homes to cater to their gambling needs: online services offer an easy and accessible (though not always secure) way to play in a casino. The rapid development of technology has already made this market one of the most profitable on the planet.

Gambling must be one of the oldest human institutions, regardless of culture or civilization. There is historical evidence of gambling in ancient Egypt, Rome, China, and even Northern Europe. Many ancient games are known to date back to the dawn of civilization. Romans played the heads-or-tails game: even the New Testament mentions Roman soldiers casting lots for Jesus' clothes. In ancient China, there was a lottery known as Keno, used (according to legend) to raise funds to build the Great Wall. The word "casino" itself comes from the Italian "casa," or house.

The first modern gambling house was opened in Venice as early as 1638, under the protection of the ruling council of the Venetian Republic. The first legal casino in Las Vegas opened its doors in 1931, and the first online gambling game was launched in 1994, when Antigua and Barbuda passed a law legalizing gambling on the Internet. By 1996, there were at least 10 websites offering roulette and poker. However, trust issues arose as soon as such online services appeared.

3.2. Key trends in the online gambling market

The attractiveness of Internet-based games for consumers is determined by the existing system of regulations and taxation. Depending on the offshore jurisdiction, a different optimal number of brands can be represented in the regulated gambling market.

Local gambling markets are dynamic, and the number of brands represented in each jurisdiction will vary depending on the circumstances. Players' preferences also vary, and they readily switch from one brand to another, chasing bonus offers and rewards. Thus, the number of brands that can operate on the market does not need to equal the number of brands that will achieve success: while some operators' business will peak, that of others will go into decline.

According to data provided by Global Betting & Gaming Consultants, in the past few years the global gaming market has been characterized by a consolidation of assets by such companies as Paddy Power, Betfair, Ladbrokes, Coral, Bwin, and GVC Holdings. As a result, some operators now develop several brands each. Owning several brands allows a company to reach out to different market segments, both in terms of product differentiation and services.

In the last several years, online gambling has accounted for most of the stock value growth in the industry. Online gambling keeps growing rapidly: gaming sites are implementing ever more advanced technologies and offering mobile extensions.

As predicted by consulting agency H2 Gambling Capital, by 2023 over 50% of gross online gambling revenues will come from mobile devices. Some companies already report that more than half of their earnings come from the mobile niche, in particular thanks to the popularity of sports betting. As of September 2018, 68% of mobile gambling revenue comes from betting.

3.3. Possible applications

Current centralized gambling platforms function under the condition of risk for all participants. Both clients of such platforms and the companies themselves can experience problems. Since such services are provided without any real guarantees, users cannot be sure that the given gambling website is not working against them by tweaking the odds in favor of the house. At the same time, platforms themselves have to bear the risk that their clients might cheat. Finally, if a hacker steals money from the website, both operators and users suffer.

In the context of these facts, blockchain technology represents a great opportunity for the future of online gambling:

- The implementation of blockchain technology will make the operations of gambling websites more transparent, allowing each party to verify that the gambling process is fair. It will also solve the issue of security.

- Transaction costs can be reduced dramatically, and money withdrawals will be much faster. While payout withdrawals presently take between three and five days, cryptocurrency transactions are almost instantaneous.

- The use of cryptocurrency will attract new clients to the market – those who cannot use centralized gambling sites due to a lack of access to banks or residency in a country where financial institutions do not allow gambling transactions.

As with any new business, cryptocurrency-based gambling is going through a stage of rapid growth and is still far from truly transforming the market. Bitcoin still leads as the preferred method of payment for gambling games, but other cryptocurrencies are also competing for a market share. Altcoin-driven gambling is a promising area of gaming investment, and it can be expected to develop dynamically in the next few years.

3.4. Blockchain-enabled gambling projects – an overview

https://www.edgeless.io – an online casino based on the Ethereum blockchain, using smart contracts to ensure the transparency of the gambling experience for users.

https://dao.casino – an Ethereum-based decentralized gaming protocol meant to facilitate interactions among all parties: casino operators, game developers, affiliated individuals, and players.

http://fairwin.io – a gambling platform on Ethereum that combines the features of a gaming marketplace and those of a full-cycle development environment.

https://funfair.io – an Ethereum-based service for developing blockchain casinos.

https://zerocoin.bet – a cryptocurrency casino with zero profits for the organizers and a closed-cycle economic model.

Conclusion

Unlike existing centralized gaming platforms, with their severe limitations, blockchain enables the transformation of game distribution and, in a sense, hands the control back to gamers: the most successful players will be able to earn a profit on their investment. The decentralized nature of blockchain technology helps decrease costs compared to centralized platforms, as well as allowing players to interact freely among themselves.

Blockchain-based, open-source, decentralized systems will make the gaming experience more secure and transparent, guaranteeing fair conditions for all members. This feature of cryptocurrencies will also be useful for online gambling.

Blockchain games can popularize the technology, attract the attention of millions of new members from across the world, and build bridges between average users

and the as yet little-understood distributed ledger infrastructure.

As the most profitable options of market entry, we can cite the following:

- Creating a popular viral crypto game with a unique idea
- Using blockchain technology in online gambling


WHITE LABEL
EXCHANGE
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Cryptocurrency
Exchange
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www.whitelabel.exchange