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# CRYPTOKKI

Small Business Marketing & Transaction Blockchain for Protocol Economy

White Paper Version 3.0

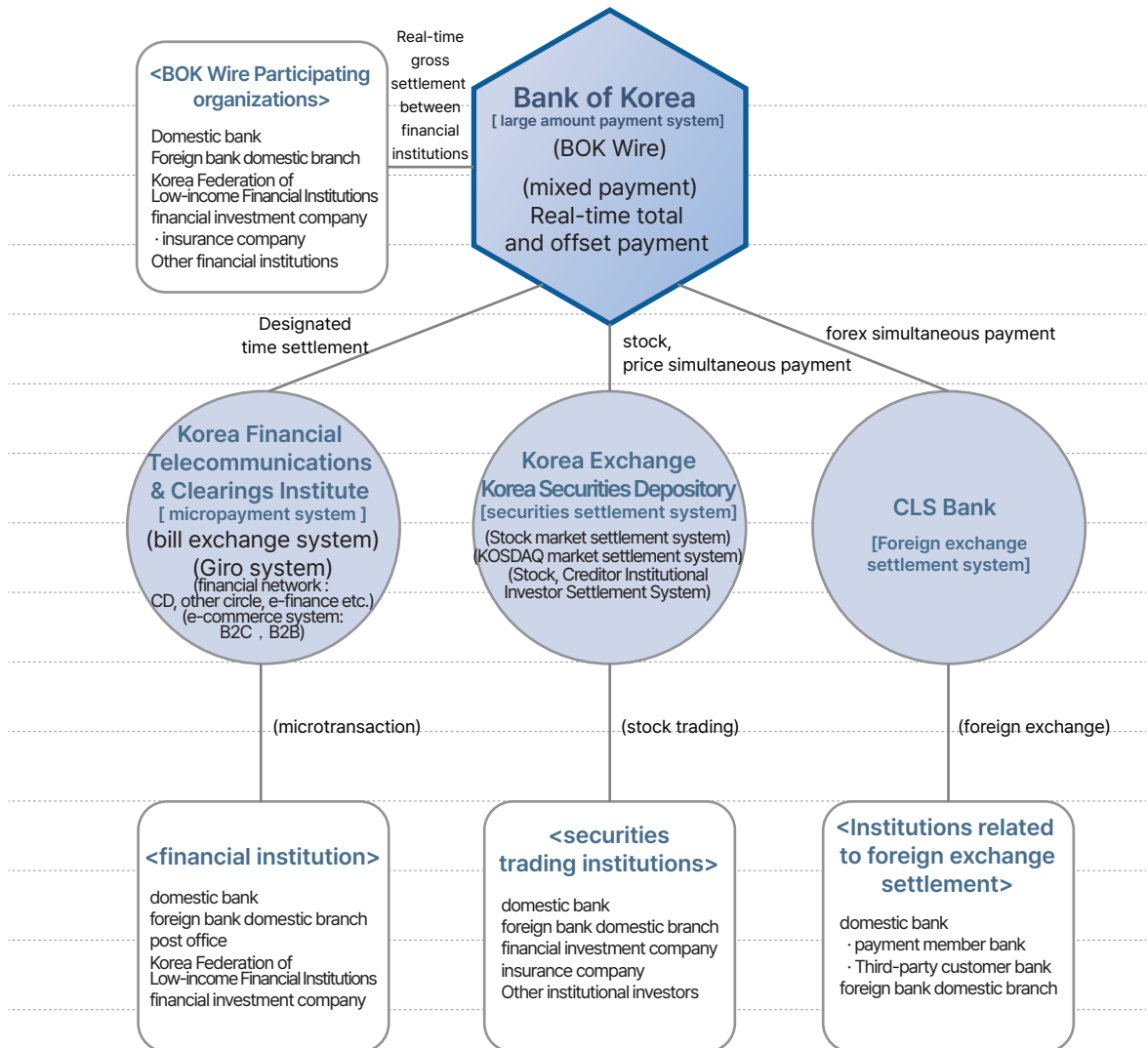
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## 0. Executive Summary

Although Korean government has been slightly different form for each administration , they have provided considerable support to small business owners, and one of them is focusing on improving the credit evaluation system for small business owners and reducing the cost of payment and settlement for small business transactions since its owners account for the majority of the national economy in terms of the number of businesses they operate.

Currently, attempts to reduce payment-related costs for small business owners are centered on the existing payment and settlement systems, the development of the Internet such as mobile centered on smart phones, has resulted in the emergence of various payment and settlement services characterized by simplicity and speed. In addition, these services are appealed to consumers for their convenience and are widely used in the market. However, even when new payment and settlement services are introduced, as long as the fees are not significantly lower than those of existing services, small business owners with relatively low sales have not been able to reduce the high fees compared to other distributors.



[Figure 1] Overview of Korea's Payment and Settlement System

Source: Bank of Korea, Korea's financial system

In order to improve this situation, the policy that has emerged is 'ZeroPay', a QR code-based mobile simple payment service first introduced by the city of Seoul. By excluding VAN companies and credit card companies that are in the middle stage of the credit card payment process, the fee in the intermediate stage is reduced. But in the end, even in Zero Pay, inter-bank transfer is required. That's why the KFTC's micropayment system is used, and fees incurred from using the existing payment and settlement system, such as settlement fees and account transfer fees, still exist. In Korea, which has a high level of credit card payment infrastructure and high consumer preference, it was not easy to induce consumers to use Zero Pay instead of credit card, so it was not activated.

In the midst of this, digitalization and non-face-to-face communication triggered by COVID-19 have made the platform economy leap forward. Also, the proportion of small businesses relying on platforms as a distribution channel increases, the influence of portals and delivery platforms has increased. At the same time, it is triggering excessive fees related to order settlement and causing problems such as an increase in unfair transactions. To solve these problems, securing a digital distribution platform centered on small businesses that can support domestic small business owners for digitalization that does not depend on the platform and marketing support for self-reliance and it is necessary to develop a business model tailored to the target audience, such as the self-employed, alleyways, and traditional markets.

In this background, the CRYPTOKKI project proposes the following four missions for the purpose of providing an alternative that can satisfy both small business owners and consumers based on the know-how accumulated while operating the existing online payment system.

① Reduction of payment fees for small business owners through APP to APP payment and token compensation for users ② Offers a live commerce streaming open platform to provide a marketing base for each region, commercial district, and traditional market ③ Build a token-based payment ecosystem so that consumers can be rewarded for watching live commerce ④ In online payment, the cost corresponding to the platform usage fee is provided to the customer (token holder), not the platform operator

CRYPTOKKI overcomes the discriminatory treatment of small business owners in the existing payment system and by strengthening compensation for users (token holders) amid the expansion of digitalization and non-face-to-face trends, directly connects small business owners (suppliers) and customers (consumers) to activate protocol economy through mutual communication. With these efforts, we provide a solution that solves the negative effects such as cost and price increase caused by intermediate operators such as platforms.



[Figure 2] Blockchain based CRYPTOKKI online payment solution



[Figure 3] Blockchain based CRYPTOKKI offline payment device

# 1. Introduction

## 1.1 Platform Economy

### 1.1.1 What is platform economy?

A platform is a word that means a space where people gather to use a specific medium or means such as a train. Although a website or mobile app is an intangible space, it has the character of a digital platform in that many people gather for various activities like a station (platform) at a train station.

At this point, the platform economy is a term that represents a situation in which a digital platform brings about huge changes in all sectors of the economy, the role of intermediary that connects different groups of users, trades goods or services, and enables various mutual activities such as information exchange, can be called a platform economy. With the advent of the digital platform model combined with the information and communication industry, the platform economy has expanded from the digital information and communication field to distribution, transportation, and accommodation, and is currently expanding to all existing industrial fields.

The digital platform was not used for economic activities from the beginning. In the early days of development, the purpose was for military information exchange activities, and when the Internet became common, the digital platform was a space for non-economic activities such as mail, bulletin boards, and chatting. However with the development of technology since the 2000s, digital platforms have reached the level of sharing content such as texts, photos, and videos with unspecified people, and distributing and trading goods and services owned by users themselves.

### 1.1.2 Characteristics of platform companies

Companies such as Apple, Amazon, Google, and Naver are representative platform companies that enable these platform-based economic activities. In the case of existing firms, capital obtains profits by hiring wage-earners to organize the production process and buying and selling goods and services in the market. Whereas platform businesses neither hire producers nor organize production processes, the profits of platform capital are

- ① The platform that has exclusive access to the user's data obtains profits by processing and analyzing the data and commercializing it
- ② By processing and analyzing the information left by platform users while working through the platform, generating revenue by developing personalized advertising products and selling them to companies, and 80-90% of the revenues of Google and YouTube are these.
- ③ By allowing privately owned surplus rooms to be traded as accommodation products, as in the case of Airbnb, which sets a fee for the exchange of mutual users, the platform also takes a method of earning direct profits.
- ④ Platform operators are developing and utilizing various revenue sources, such as making profits by attracting investment in the capital market.

The common features found in companies operating digital platform-based businesses are that they record astronomical sales while hiring relatively fewer workers than off-line companies. YouTube, which has 1.8 billion members worldwide and has annual sales of \$20.4 billion, has only 1,500 employees, even if comparing the 234,000 employees at McDonald's, which have similar offline sales per year, we can see the trend of decreasing worker recruitment in the platform economy. This is a phenomenon that occurs because the profit generating structure of the platform economy is qualitatively different from the existing industrial economy. Existing industrial companies generate profits by using the labor force of their employees, whereas the platform economy generates profits due to the activity capabilities of members of the platform.

Abroad				Domestic			
Company	Employees	Members (Billion)	Annual Sales (US Dollar)	Company	Employees	Members (million)	Annual Sales (Won)
Meta	25,105	2.2	40.7 billion	Naver	3,408	42	46.784 trillion
Youtube	1,500	1.8	20.4 billion	Kakao	2,621	50.34	1.9723 trillion
Instagram	450	0.8	6.8 billion	Woowa Brothers	630	6	162.5 billion

[Table 1] \* Domestic and Foreign Platform Companies size and Status

\* Oh Dong-yeol, 2021, A Study on the Transformation of Protocol Economy to Improve the Problems of Platform Economy, Pusan National University

### 1.1.3 Problems of the platform economy

An online platform with a business model that mediates or mediates the demand of a group of users on the other side has an indirect network effect where the greater the participation of consumers, the more useful the platform becomes for operators on the other side. This, in turn, can lead to an increase in the number of consumers on the other side, and more benefits can be generated for both users, so competitive platform operators are encouraged to use the platform for free or at a lower price in order to attract more consumers. When a platform operator achieves economies of scale and grows into a giant monopolistic operator, platform users may become stuck on one platform, it may become difficult for other platform operators to compete, and the entry barrier will increase, resulting in a concentration or monopoly.

If the competition does not function properly in the market, giant platform operators can exploit and abuse their counterparties. They may abuse their position to limit competition in the market, or transfer market power to extend their unfair influence in other markets.

Under the platform economy, many startups expected to compete freely, create innovative services, and increase benefits. However contrary to expectations, in order to achieve economies of scale and secure a monopoly position, the company competes for customer acquisition, such as an exceptional initial price, free service, and coupon issuance. By securing consumer customers, a winner-take-all situation of a giant platform company appeared, and by taking advantage of its monopoly position, ①Abusing prices, such as receiving supplies at a significantly lower price or raising fees significantly higher ②Acts of abusing the terms of the transaction, such as demanding the provision of unfair profits from the counterparty, or demanding unfair terms and conditions ③ When the platform develops products directly, such as PB (Private Brand) products of department stores, and exhibits preferential trading through its own platform and ④ Fees and reinforcements are set according to the rules set by the platform operator, so that the fruits of success are not shared with suppliers and consumers who have contributed to the growth of the platform, ⑤ the development of platforms such as delivery apps and designated driving created new jobs, but also resulted in the mass production of low-wage, low-skilled, and very short-term jobs.

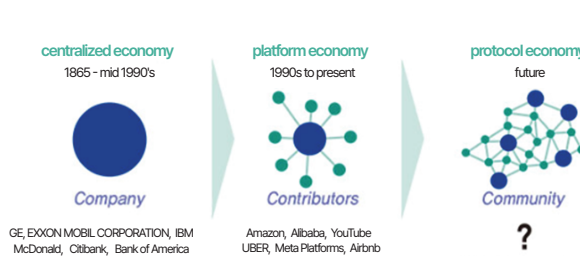
Accordingly, in the United States, platform anti-monopoly laws such as prohibition of self-preferential treatment of platform operators and prohibition of conflict of interest business were enacted. In Europe, too, the Digital Market Act and the Digital Service Act have been enacted and implemented to regulate indiscriminate data-based business expansion. Also, in Korea, policies are being formulated and implemented to prevent harm to digital platforms through the enactment of the Online Platform Fairness Act.



## 1.2 Protocol economy

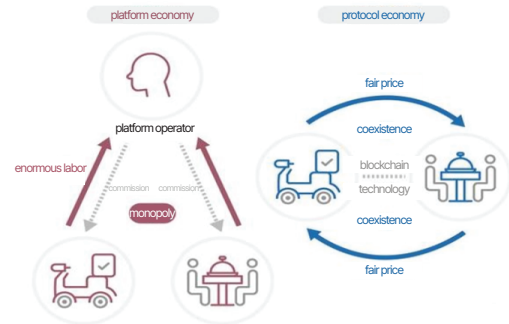
### 1.2.1 What is protocol economy?

Protocol economy is a form of voluntarily setting and trading protocols between individuals which is a concept that refers to a platform ecosystem that reduces transaction costs and realizes fair distribution through decentralization and demonopolization. The current era is a society of symmetric information through networks. Until the development of the Internet, platform companies such as e-commerce, sharing economy, and O2O appeared as an alternative to the vicious cycle of wealth and power being concentrated due to information monopoly. However, these companies were also not free from the temptation of information monopoly, they gave birth to new rulers of information. So, a concept to improve the problems of platform companies, they presented an economic structure in which all members can enjoy fair benefits and emerged as a practical way to achieve it.



[Figure4] Transition to protocol economy\*

\* Source: Hashed Labs



[Figure5] Platform economy and protocol economy\*

\* Source: News 1

The protocol economy is a collaborative, open and democratic economic model in the digital age that can be the start of a fair economy in the digital age because various rules can be set autonomously according to the characteristics of each industry or the governance or ownership structure. Since it aims to strengthen social cohesion and mutual solidarity by opposing the pursuit of excessive private profit and creating a new economic alternative centered on the public interest, It can be an economic improvement model for a fair economy in the era of giant digital platform economy.

Various prerequisites are required for the implementation of the new protocol economy, but ① Information distribution, ② Minimization of brokerage costs, ③ Agreed rules could be coming out as a priority. 'Information distribution' is decentralized information, which ultimately means the disclosure of information that anyone can access and use equally. In the platform economy, information is a source of revenue and power so, it is necessary to have a technology that distributes centralized information to exchange between individuals. and store data respectively. 'Minimization of brokerage costs' means that in the platform economy, a certain percentage of brokerage fees set by the operator providing the trading platform is charged. As the commission rate increases or the number of transactions increases, the platform operator's profit increases. So, minimize fees and distribute the reduced transaction costs to suppliers and consumers. 'Agreed rule' needs a consensus algorithm, a technology that verifies and approves transaction details, to create a rule that allows mutual trust among network participants. Network participants should be able to directly verify the conclusion of a transaction contract and verification of transaction details without an intermediary. At this point, blockchain technology is needed to prevent data duplication and risk of hacking.

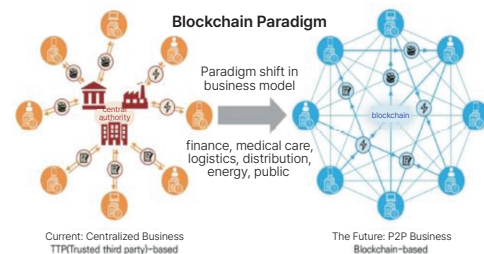
Even if we agree with the purpose of fair distribution, there are opinions that it is sufficient to regulate and supplement the existing platform economy with a system. In the end, it follows the rules set by the platform company, so we have to make and reward promises that we have no choice but to keep using blockchain technology. It cannot be said that there is no protocol economy without using blockchain technology, but blockchain technology is useful to prove the transparency of open networks and rules. If there is no intermediary or the role is greatly reduced, P2P networks and smart contract technologies are required. Also, with the decentralization of information, all participants should be able to freely access information. Distributed ledger systems and DApps are also required for transparent information disclosure.

For fair distribution, we are pursuing a method of rewarding with tokens based on blockchain, away from the method that existing platform companies give money or stocks. That is, A method to ensure that not only fair compensation for contributions based on a system in which anyone can access information, but also rewards according to platform growth when the value of the participating platform grows as the participation platform grows. This is because, as a platform where suppliers and consumers, etc. participating in the ecosystem grow together, we aim for a virtuous cycle structure in which all participants share cost utility and network value.

<p>&lt;Platform worker win-win model&gt;</p> <p>A model in which each worker, including transport workers, thrives on the premise that fair compensation for labor is paid.</p>	<p>&lt;A win-win model with traditional industries&gt;</p> <p>A model that connects consumers with traditional industries such as restaurants and accommodations with minimal fees</p>
<p>&lt;Sharing Economy Vitalization Model&gt;</p> <p>A model that eliminates or minimizes brokerage fees for people-to-people sharing of facilities and goods</p>	<p>&lt;Blockchain-based technology related model&gt;</p> <p>A model for developing related new technologies such as blockchain consensus, data management, etc.</p>

[Table2] Four Leading Models of Protocol Economy\*

\* Source: Ministry of SMEs and Startups



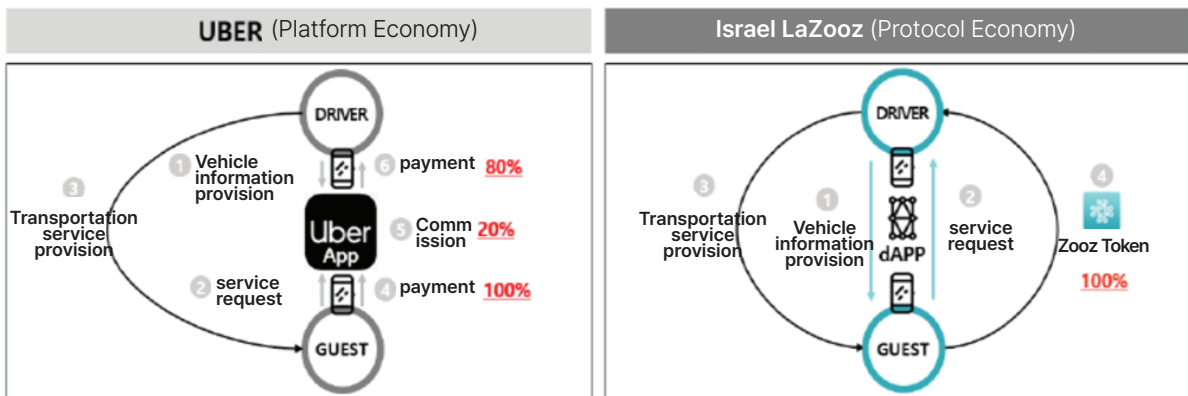
[Figure6] Transformation of Blockchain Paradigm\*

\* Source: Korea Institute of Science and Technology Evaluation

### 1.2.2 Protocol Economy Applications

La'zooz, a community-owned decentralized transport platform developed in Israel, utilizes 'Ethereum'-based virtual asset technology to apply a fair sharing reward mechanism for developers, users and sponsors.

The method of using the vehicle is the same as that of Uber, but the platform owner is a platform participant, not a company. Because the DApp is used, payment is made with virtual assets instead of cards, and the payment fee is free, and the existing platform only receives compensation for driving, but has nothing to do with the growth of the company. However, as the reward for participants is provided with the 'Ethereum'-based virtual asset, Zooz token, additional compensation can be expected as the value of Juzu increases, and users can also benefit from low payment fees, and drivers, too, can expect additional compensation according to the increase in the value of their tokens.



[Figure7] Israeli LaZooz business model

\* Source: KOSI

Origin Protocol, invested by YouTube founder Steve Chen, is a decentralized blockchain-based peer-to-peer marketplace that provides a free online store for gift certificate trading, accommodation sharing, and direct clothing trading, aiming at a sharing economy without an intermediary. More than 3,000 products are traded by users worldwide.

For rewards and network activation, an 'Ethereum'-based utility token called 'Origin Token' is also used. Negative incentives are given for illegal activities, and developers are not required by providing open source code for free. In addition, it has the characteristic that participants can own shares through transactions, promotions.

Somesing, developed in Korea, is a mobile-based social karaoke app that combines blockchain technology. Most of the existing karaoke apps are billing models that induce paid payments as a condition for providing sound sources and using additional features. On the contrary, SOMESING allows anyone to sing all songs provided in the app for free, and can acquire Klaytn's utility token, SSX (SSX), through sponsorships, gifts, and events for creative content posted on the platform.

### 1.3 Aim of CRYPTOKKI

CRYPTOKKI aims to be a protocol economy platform that serves as an O2O & P2P marketplace based on 'On/Offline Payment Service' and 'Live Commerce Streaming Video' to enhance the competitiveness of domestic small business owners with a 'Klaytn'-based utility token.

Korea's payment and settlement system is a payment service provider that provides a means of payment in financial transactions. There are banks, post offices, financial investment companies, and credit card companies. As operating institutions in charge of settlement and settlement, there are the Korea Financial Telecommunications and Clearings Institute and the Korea Exchange but, ultimately central bank has a structure where functions are centralized. The payment networks that are highly related to small business transactions are the micropayment system and the large amount payment system. The central bank - the Korea Financial Telecommunications and Clearings Institute - the bank monopolizes the payment and settlement network. The source of payment-related fees for small business owners lies in the payment and settlement network facility and operating costs, so the plan to take small business payment fees for free is not feasible unless someone, including the state or local government, bears all costs, such as the cost of account transfer, the cost of someone verifying the integrity of the transaction, and the cost of storing and managing transaction-related records.

Payment and settlement networks using CRYPTOKKI can form complementary relationships by applying block chains together with existing payment networks. In a situation where financial transaction information networks are formed in various ways and compete, If you have limited access to the current payment network, in the payment and settlement network of CRYPTOKKI, based on the network effect of the increasing number of participating small business owners and customers, financial institutions have the negotiating power to cut fees for the purpose of improving the efficiency of financial institutions and payment network usage fees can be significantly reduced by imposing payment network fees that decrease in proportion to the increase in users and usage frequency.

In addition, the live commerce streaming video-based O2O & P2P marketplace service provided together is a protocol platform that connects Korean small business owners who have difficulties in attracting customers and token holders of virtual assets who cannot use virtual assets due to the absence of a commerce payment ecosystem. We want to trigger the formation of a trading network between virtual asset holders and small business owners, estimated at 10 million.

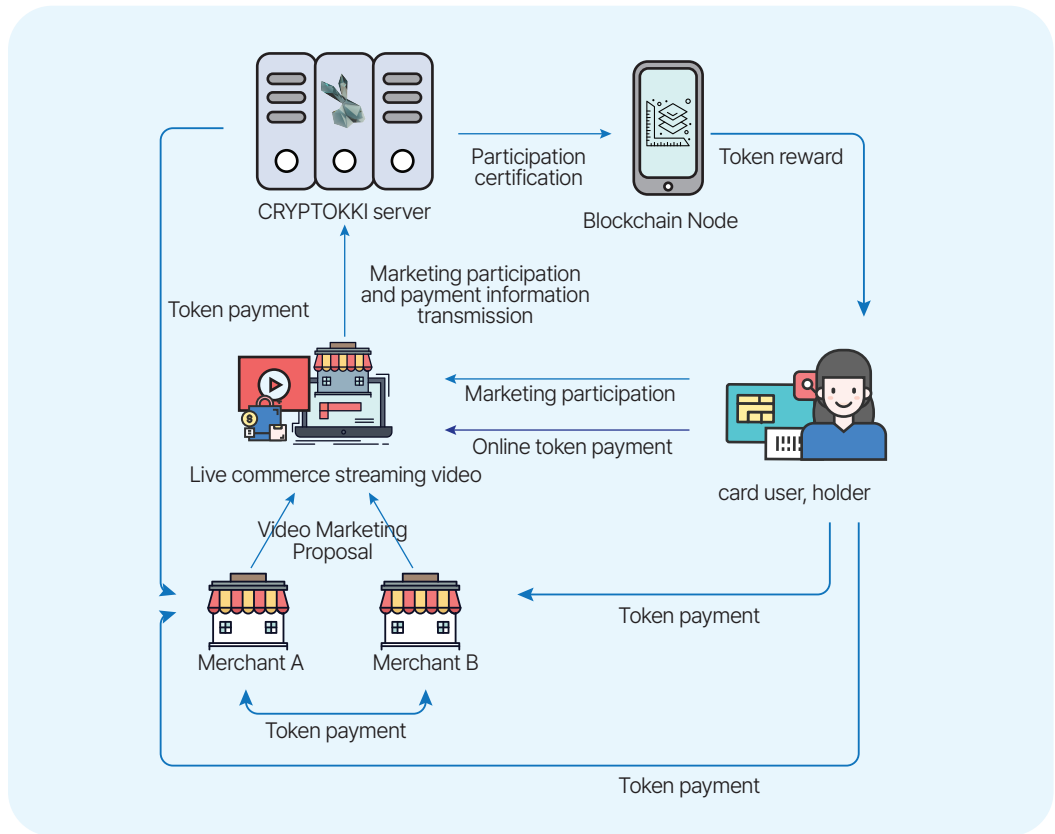
CRYPTOKKI becomes a medium and enables live commerce marketing for coin holders and provide a live commerce marketing platform (protocol platform) to small business owners and upload streaming videos of products or store information to promote on the platform. At this time, set the number of tokens to be paid to token holders who watch the video.

Holders participate by watching the video on the live commerce marketing platform and are rewarded with the number of tokens set in the video and the tokens rewarded by the foundation.

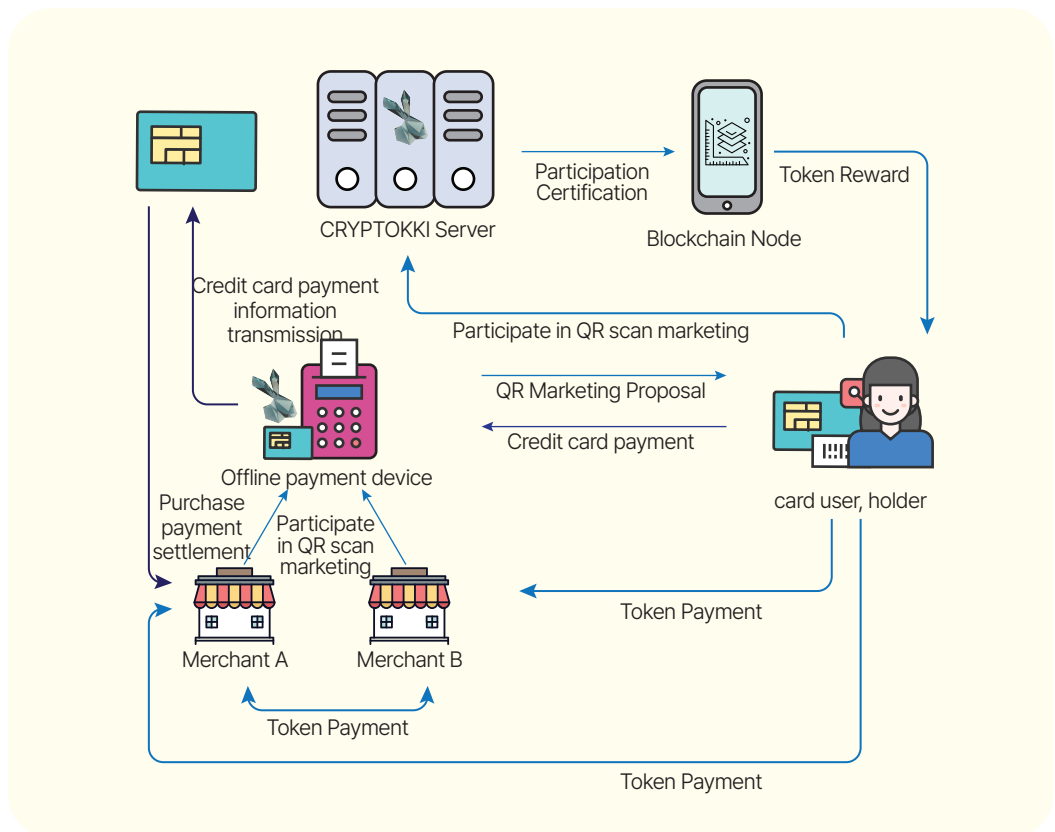
Tokens received as rewards can be used for payment of live commerce marketing platform products within the limit of token use and small business operators can use the tokens received from product sales to the holder as compensation on the marketing platform or as part of the payment for other small business operators.

The offline marketing platform is provided through a payment device, and the holder can participate in marketing through the QR code of the receipt issued when payment is completed through the payment device provided to small business operators. It is possible to participate in promotional marketing through a simple game provided by scanning the QR code of the receipt that is printed when making a payment such as a credit card from a payment device installed in a store of a small business operator and the number of token rewards is determined through the game, and the acquired tokens can be paid as part of the payment amount in the online and offline ecosystem of the marketing platform. In the case of a new customer, the CRYPTOKKI wallet will be installed and will flow into the new holder. To enable token payment in offline stores, Android-based payment device is provided, which provides payment of tokens as well as credit cards.

As a result, the small business operator proposes publicity marketing to the block chain holder, and the holder receives a reward by participating in the small business publicity marketing. Also, The rewarded token can use a certain portion of the payment amount at the small business merchant, and the token-receiving merchant can also use a certain portion of the payment amount at the merchant in the project ecosystem. Tokens circulate within the project ecosystem, completing the token economy. Small business operators can attract customers through the Crypto Rabbit Project, and the brokerage fee for attracting customers is received in tokens.



[Figure8] Online payment process based on live commerce



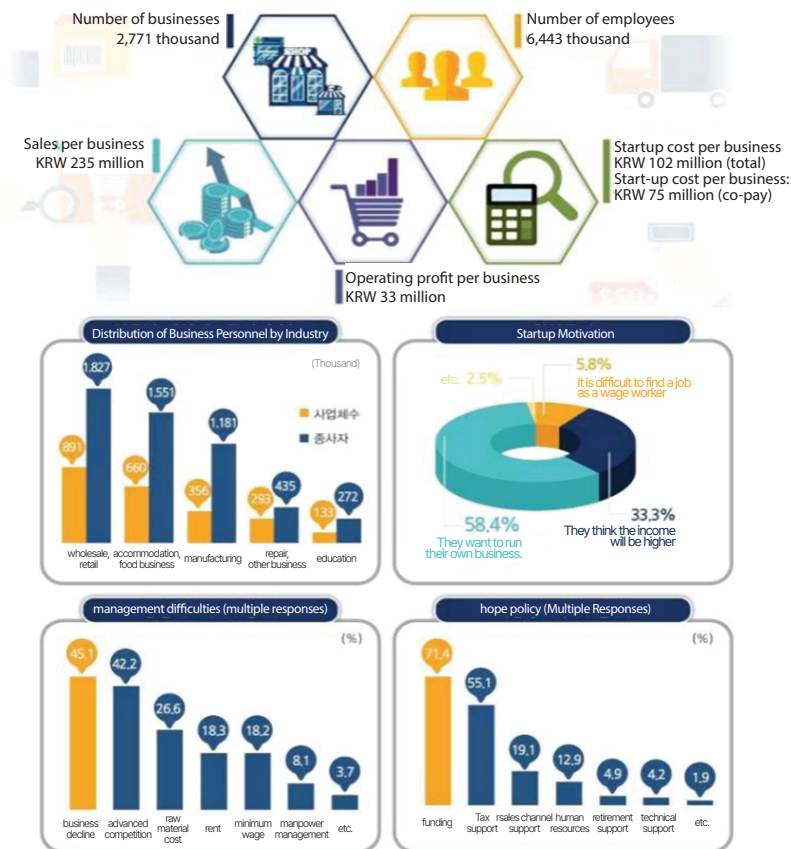
[Figure9] Payment terminal-based offline payment process

## 2. Industry overview

### 2.1 Small business status

A small business owner is a business operator that operates a relatively small business among SMEs. According to Article 2, Paragraph 2 of the Framework Act on Small and Medium Businesses, a small business is a small business with less than 10 full-time workers, and for other types of business, it means a business operator who operates a business with less than 5 full-time workers, for each industry, the standards are set separately by the Presidential Decree. The scope of small business as stipulated by the Presidential Decree refers to businesses with less than 10 full-time workers in the mining, manufacturing, construction and transportation industries, and businesses with less than 5 full-time workers in other industries such as wholesale and retail, lodging and restaurant businesses, and service businesses.

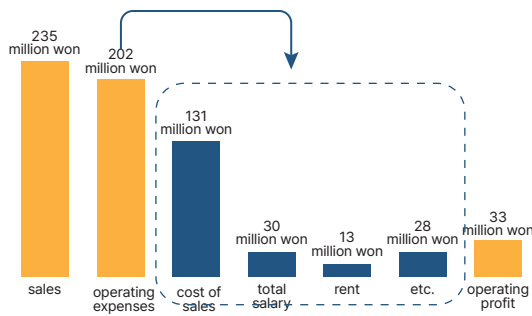
According to the "Survey on the Status of Small Businesses" published by the Ministry of SMEs and Start-ups in 2019 and the National Statistical Office, the number of small business enterprises in Korea is 2,771,000, and the number of employees is 6,443 thousand people. Annual sales per business are 235 million won and operating profit per business is 33 million won. Based on the number of businesses, the wholesale and retail industry accounted for 32.15% and the accommodation and restaurant industry took up 23.81%. As major management difficulties, they are talking about declining business districts and intensifying competition.



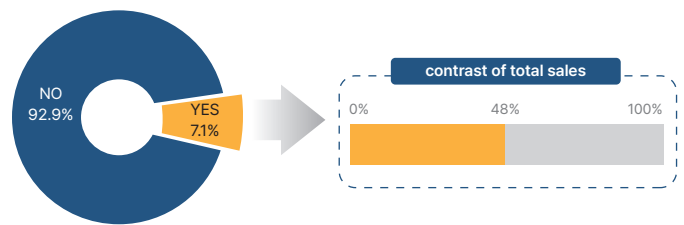
[Figure10] Major Results of the 2019 Small Business Survey \*

\* Source: 2019 Small Business Survey, Small and Medium Business Administration

The average sales of domestic small business owners is 235 million won per store per year, and the average operating cost is 202 million won, with an average operating profit of 33 million won. Companies with e-commerce performance accounted for 7.1% of the total, and their e-commerce sales accounted for 48.0% of total sales. Therefore, it is expected that the sales effect of the promotion and marketing using CRYPTOKKI to expand the scale and the distribution and introduction of online commerce will be large. But, It is necessary to strengthen marketing in the initial stage of dissemination, and for this purpose, it is expected that an affiliate compensation campaign will be required for small business owners, token holders, and new subscribers to be incorporated into the CRYPTOKKI token ecosystem.



[Figure11] Business performance of small business owners\*



[Figure12] E-commerce performance and sales share of small business owners\*

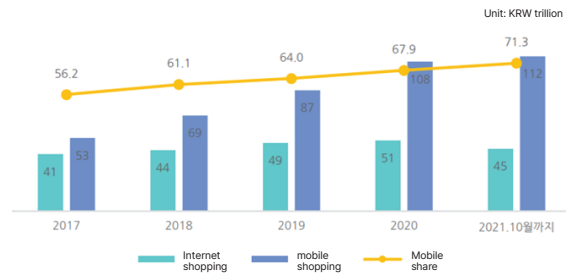
\* Source: 2019 Small Business Survey, Small and Medium Business Administration

According to the '2022 Small Business Market Prospect and ISSUE' report published by the Small Business Market Promotion Agency in December 2021, the market keywords of small business owners in 2022, were presented a feeling of economic growth for small business owners, securing liquidity, and industry conversion. Among them, it was suggested that, due to the expansion of the online market for industry transformation, it is necessary to consider the management method and industry transformation of small business owners focused on offline, and emphasized the importance of improving productivity by expanding online sales channels and strengthening digital capabilities. Due to the impact of COVID-19, consumption at home increased, while consumption related to going out decreased. However, most of the items that consumers spend increasing their consumption are items that can be purchased online and Even if the impact of COVID-19 decreases due to the improvement in consumers' familiarity with online purchases, small business owners who have not secured an online market are expected to have difficulty recovering their business performance.

According to the report, the transaction amount of the online market has been increasing at an average annual rate of 20% since 2017. It explains that cloud funding, which is directly invested by consumers who want to purchase, is active, and opportunities to raise funds are diversifying. In particular, 71.3% of online shopping transactions are done using mobile devices, and the increase in transaction amount is expected to continue. Among online transactions, the market size of live commerce is growing rapidly, and it is estimated that it will grow to 2.8 trillion won in 2021 and an average annual growth rate of 192.4%. It is analyzed that this is because the advantages of using mobile to make simple payments along with video viewing and for immediate communication between sellers and viewers work positively.

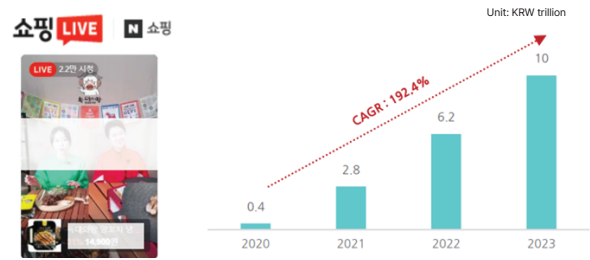


<Changes in online shopping transaction volume>



Source: Statistics Korea, online shopping trend survey

<Live commerce market size>



Source: Kyobo Securities Research Center (November 2020), K-MRI Flex Stocks

## 2.2 Small Businesses and Platform Economy

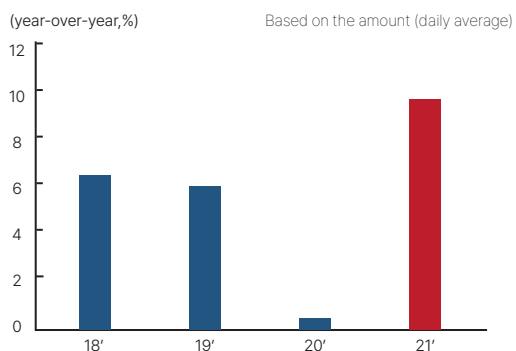
As the proportion of small businesses relying on platforms as their distribution channels increases, the influence of portals and delivery platforms has increased. The online food service transaction amount, which shows the trend, has been continuously increasing, and the platform's market dominance has increased during the COVID-19 phase. According to the results of a survey by the Ministry of SMEs and Startups on businesses using online platforms, it was found that 74.1% of surveyed companies accounted for more than half of sales through online platforms in their 2020 sales. Also, 23.5% of companies answered that their total sales (100%) were platform sales. 60% of the survey subjects were highly dependent on the online platform to the point where they felt it would be difficult to manage them. It was surveyed that operators using online platforms signed up for an average of 3.6 online platforms, and 36.7% used more than 5, indicating that they use multiple platforms rather than just one platform.

Reasons for businesses to use online platforms, it was surveyed that 'it was difficult to continue business without using the platform (59.2%)' and 'they tried to expand the business scope to the online market (54.4%)'. The response 'because it is difficult to continue business' was surveyed relatively high in the delivery and lodging sectors, where many small business owners are engaged. It is analyzed that the dependence of small business owners on online platforms is increasing due to changes in the distribution environment. In addition, problems pointed out by online platform users were surveyed due to high fee burden and unfair practices.

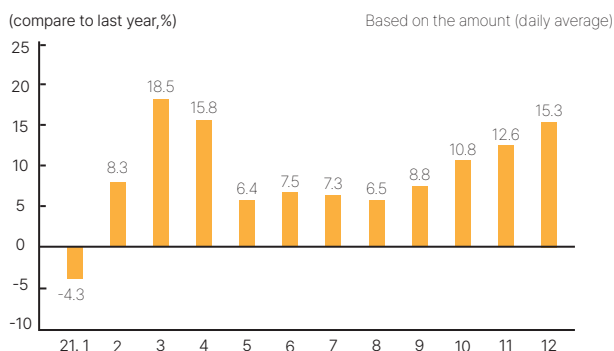
## 2.3 Domestic payment and settlement market size

Looking at the domestic payment and settlement trends announced by the Bank of Korea in March 2022, Private consumption in 2019 shifted from an increase of 2.1% to a decrease of 5.0% in 2020, but is expected to increase by 3.6% in 2021. Based on the recovery of private consumption, the use of payment cards (daily average of KRW 2.8 trillion) increased by 9.4% compared to the previous year.

<Payment Variance by year of benefit payment card>



<Payment Variance Monthly of Benefit Payment Card >



\*출처 : Bank of Korea, 2022

### <Scale of use by payment card type>

Payment standards excluding personal and corporate payment cards (domestic and overseas affiliates) amount (daily average), cancellation after approval  
 Numbers in parentheses is Year on Year (daily average, KRW billion,%)

Division	2018	2019	2020		2021	
			Yearly	(Variance)	Yearly	(Variance)
<b>Credit card</b> (Excluding cash service)	1,862	1,967	1,960	(-0.3)	2,160	(10.2)
Personal	1,444	1,546	1,537	(-0.6)	1,692	(10.1)
Corporate	417	421	424	(0.7)	468	(10.4)
<b>Check card</b> (Including overseas usage)	502	532	540	(1.5)	581	(7.6)
<b>Prepaid card</b>	2.1	2.5	17.0	(590.8)	12.6	(-25.8)
<b>Etc.</b> (Cash IC card, debit card)	1.4	2.4	2.3	(-6.4)	2.8	(24.6)
<b>SUM</b>	2,367	2,505	2,520	(0.6)	2,757	(9.4)

Source: Full-time card company and credit card business bank, financial investment company, Korea Financial Telecommunications & Clearings Institute, etc.

When viewed by payment type, Due to the influence of restraint on outside activities because of the spread of Corona 19, in 2021, not only non-face-to-face transactions such as online shopping mall payments using PCs through mobile devices (smartphones) but also the use of non-face-to-face payments (daily average of KRW 1.0 trillion, tentative value) increased significantly (+16.2%), including payments made without terminal contact at the transaction site through mobile devices. While face-to-face payments only increased slightly (+2.9%), and the proportion of non-face-to-face payments among total payments was 40.1% in the fourth quarter of 2021.

In particular, not only mobile device-based non-face-to-face payments, but also face-to-face payments, payment methods that contact mobile devices instead of physical cards to payment terminals (card terminals, QR codes, etc.) have continued to spread.

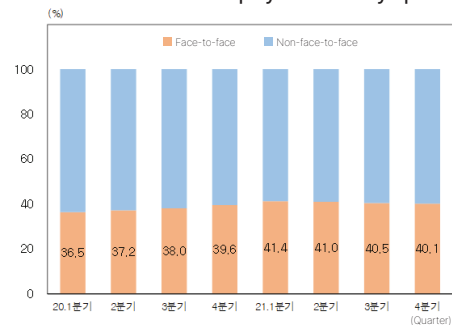
< Usage scale<sup>1)</sup> by payment type and Variance<sup>3)</sup> >

(KRW 1 billion, %)

2021		Access device		
		physical card	Mobile, PC, etc. <sup>2)</sup>	Sum
Method	face-to-face	1,282 (2.2)	152 (9.7)	1,434 (2.9)
	Non-face-to-face	-	986 (16.2)	986 (16.2)
	Sum	1,282 (2.2)	1,138 (15.3)	2,421 (8.0)

1) Based on the amount (daily average) (tentative) of individual and corporate credit and debit cards (domestic affiliates)  
 2) Including ARS, biometrics, etc.  
 3) Numbers in parentheses is Year on Year

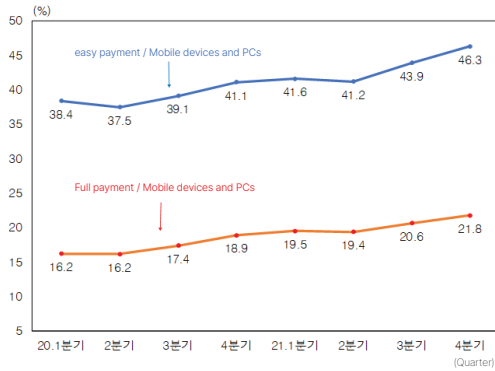
< Proportion of face-to-face and non-face-to-face payments<sup>1)</sup> by quarter >



1) Individual and corporate credit and debit cards (domestic affiliates) based on the amount (daily average) (provisional)

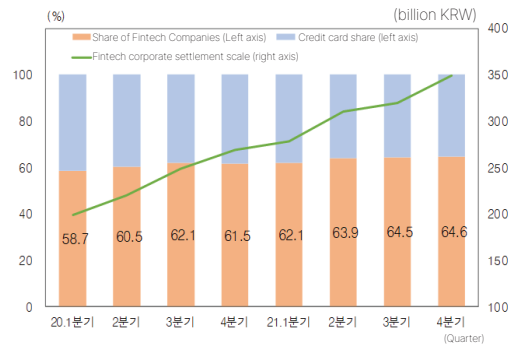
In payments through mobile devices, etc. (average daily average of KRW 1.1 trillion), including non-face-to-face transactions such as online shopping mall payments using PCs, payments made at the transaction site through mobile devices without contact with the terminal, the proportion of using the card-based simple payment service(For methods other than simple payment, there is a method of making a payment by authenticating the person with a card number, card expiration date, CVC number, etc.), which is a service that stores card information in advance on mobile devices and pays using a simple authentication method(password input, fingerprint recognition, etc.), is showing that an increasing trend due to preference for convenience, etc. In the fourth quarter of 2021, the proportion accounted for 46.3%. Among the card-based simple payment services, the proportion of services provided by fin-tech companies was continuously expanding to 64.6% in the fourth quarter of 2021.

< Proportion of use of card-based simple payment service<sup>1)</sup> >



1) Individual and corporate credit and debit cards (domestic affiliates) based on the amount (daily average) (provisional)

< Status of use of card-based simple payment services<sup>2)</sup> provided by fintech companies<sup>1)</sup> >



1) Simple payment service provider  
 2) Individual and corporate credit and debit cards (domestic affiliates) based on the amount (daily average) (provisional)

## 2.4 Small Business Blockchain CRYPTOKKI

The blockchain, which first appeared through bitcoin, can be summarized in one word as a distributed ledger containing electronic records that operate under the security and protection of cryptographic technology. Technically, the existing P2P (peer to peer) network technology and security and verification technology are combined to form a block chain. In the existing P2P network, there is no procedure for each network participant (node) to check each other, so it was mainly used for large file transfer. Whereas, Blockchain has inherent procedures to verify the authenticity of data transmission.

In the blockchain network, which is a combination of cryptography and distributed ledger technology, instead of verifying all transaction details by an administrator with special central authority and recording them on the only central server, to implement a shared, distributed, decentralized network that records and stores in an immutable form on each node of a distributed computer. Because of this, unlike a centralized server system, all records are distributed and recorded on each node, so the risk of all records disappearing due to accidents, wars, disasters, etc. is close to zero. Therefore, like the current payment and settlement system, a system in which the entity in charge of financial transactions operates a single server is directly exposed to the problem of a single point of failure. But, blockchain does not have these risks.

Because of these advantages, blockchain was first applied to direct transactions and remittances between individuals belonging to the realm of payment and settlement as in the case of Bitcoin as an electronic record, the so-called virtual currency. Blockchain can be easily used in many fields other than remittance in that any type of asset can be recorded and maintained on the blockchain. It can be also used as a register or inventory system necessary for appraisal, transaction, monitoring, and records, and blockchain can be used sufficiently in commerce itself and credit transactions derived from commerce, securities settlement, and futures settlement.

The CRYPTOKKI project utilizes blockchain while maintaining the existing payment and settlement network. By expanding small business owners and token holders using the CRYPTOKKI protocol platform, it enhance the network effect. In the long-term, in a situation in which commerce and financial transaction information networks by blockchain are formed and compete in various ways, if the existing payment and settlement system is connected to the blockchain network by introducing the concept of information processing interconnection, it is possible to improve the efficiency of the existing payment and settlement network. This can lead to a reduction in payment fees.

According to the research paper, the advantages of small business blockchain transaction are ① various fees for small business transactions can be reduced because the system construction and operation costs can be greatly reduced. ② It can reduce the effort and cost required for specific institutions such as banks to artificially collect, store, update, and analyze the atypical credit information (actually big data) of small business owners. ③ It is possible to reduce card fees for small business owners and reduce annual card fees for individual consumers. ④ Since there is a clear purchase record from a small business owner, the consumer's request for refund or compensation for defective goods or services can be much easier than it is now. ⑤ It is possible to form and produce big data for small business transactions, consumers can sell or provide free data on their transaction behavior to financial institutions with a high level of security also, by providing data on their sales and sales behavior, small business owners are said to be the basis for enabling the emergence of new credit rating companies and credit rating businesses.

CRYPTOKKI can access numerous mobile promotional marketing through smartphones, consumers who can receive various benefits and conveniences with app-to-app payments through smartphones do not stay with just consumers who use platforms of large corporations such as Naver's 'Shopping Live', Kakao's 'Talk DeLive', Timon's 'TV on Live', CJ Olive Young's 'Olive', and Lotte Department Store's '100 Live'. In a state where capital and manpower are insufficient compared to these large corporations, we have formed a business with the proposition of establishing a protocol platform ecosystem to grow together with small business owners by region and industry by becoming a partner of small business operators who have to compete.

The services provided by CRYPTOKKI are a live commerce platform and an online/offline payment and settlement system. Since most mobile promotional marketing is done with mobile gift vouchers or mobile coupons, e-money (points), we provide tokens and app-to-app payment systems, and conglomerates have built their own POS system to provide various benefits such as electronic money payment, discount, and accumulation. Whereas small business operators are installing credit card-only payment terminals or individual store POS systems that were installed as credit card companies and banks built VAN's value-added communication network at a time when PVC magnetic credit card payment was growing and developing decades ago. By distributing a token-based offline payment system, and providing a live commerce platform, a publicity marketing space, based on this, we intend to build a network where consumers and small business owners can work together.

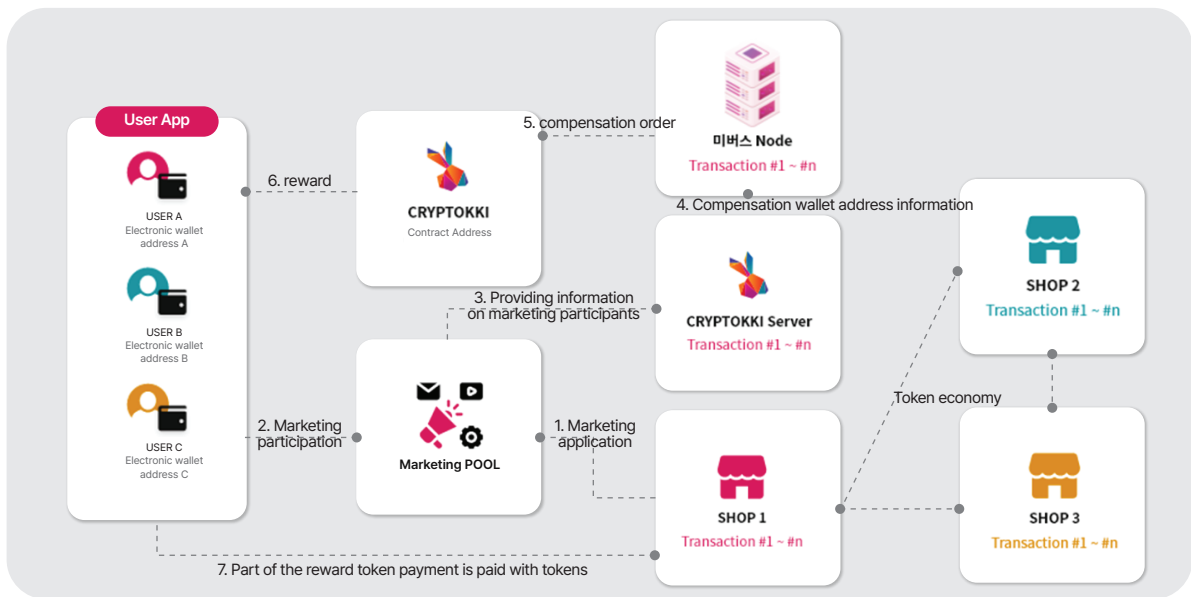
Small business owners deduct a 20-30% commission on large enterprise platforms and sell their products to consumers while paying 0.5-1.5% (1.5%-3.5% additional when using simple payment platforms) as a payment fee. Not only consumers will purchase the product at a higher price, but there is no reward for growing the platform of a large company, only taking the purchase utility. To be rewarded for your hard work on your purchase, again, you need to invest in stocks of large companies' platforms. CRYPTOKKI aims to support the enhancement of its own competitiveness by rewarding consumers' purchases and marketing participation for small business stores, and providing small business owners with a payment and settlement system and marketing tools that can compete with large businesses.

Consumers and small business owners participating in CRYPTOKKI's token ecosystem will all be rewarded as members of an ecosystem that shares growth and will act as a protocol economy entity. This will help build a virtuous cycle economy that enables purchase at an affordable price, production and supply of good quality products and services, compensation for consumption behavior, compensation for the growth of small business owners, and utilization of ecosystem big data.

### 3. About CRYPTOKKI

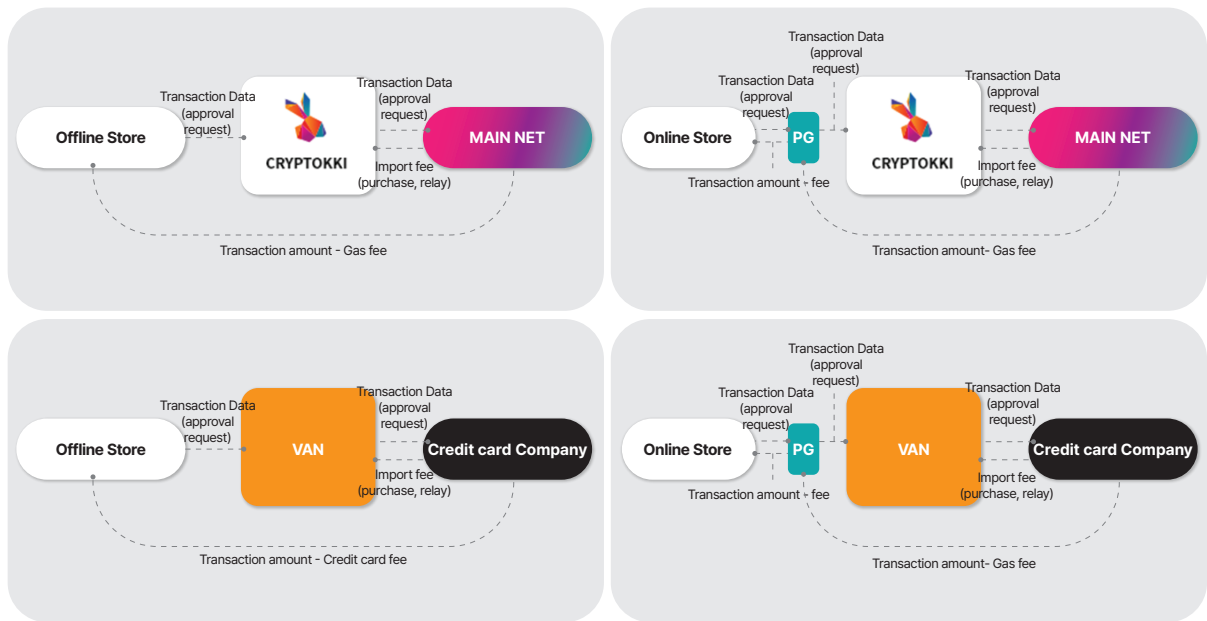
#### 3.1 Blockchain Transaction

CRYPTOKKI coins and tokens have been issued based on Klaytn, but they have been implemented in the Miverse mainnet ecosystem to improve transaction speed during payment.



### 3.2 Payment settlement service

① In order to enable offline credit card users to participate in scan marketing platform of the receipt QR, the payment system is linked with VAN of KSNET and PG payment systems to provide credit card payment. And for live commerce of small business operators and token payments on payment devices, transaction information on the mainnet is linked so that it can be reflected in the payment system.



② We provide APP TO APP payment with the payment application on Android-based payment devices. APP TO APP payment method uses QR code scanning and NFC contact method. In order to provide credit card payment, in addition, a KTC-certified card reader is installed to support IC, MSR, and MST payment methods, which are credit card payment methods. Payment device fully supports credit card payment and allows you to participate in scan marketing of the receipt QR. We also provide a payment service for tokens rewarded from the promotional marketing platform.



[그림15] CRYPTOKKI 결제 디바이스



③ We provide an electronic wallets with real-time cash withdrawal and prevention of deposit omissions for credit card payments to small business operators. Small business operators who have electronic wallets can check the transaction results of the paid tokens when paying tokens other than credit card payment. In other words, we provides small business operators with an electronic wallet that can settle credit card payments and token payments made by holders in real time so that you can settle the centralized credit card payment method and the decentralized token payment method at once.



[Figure16] CRYPTOKKI payment service

④ We provide holders with a platform wallet that they can create an electronic wallet to store tokens and participate in the small business marketing platform. Holders can manage the accounts that store purchased or rewarded tokens in the platform wallet. And it is possible to manage the rewards of participation of marketing and purchase, and assets of tokens used for on/offline payments. Also we provide a bridge that allows small business operators to participate in the marketing platform. In other words, the holder can participate in the marketing platform through the e-wallet. And the wallet is linked with the payment device so that it can be used to purchase products from small business operators and manage the tokens rewarded through the participation.



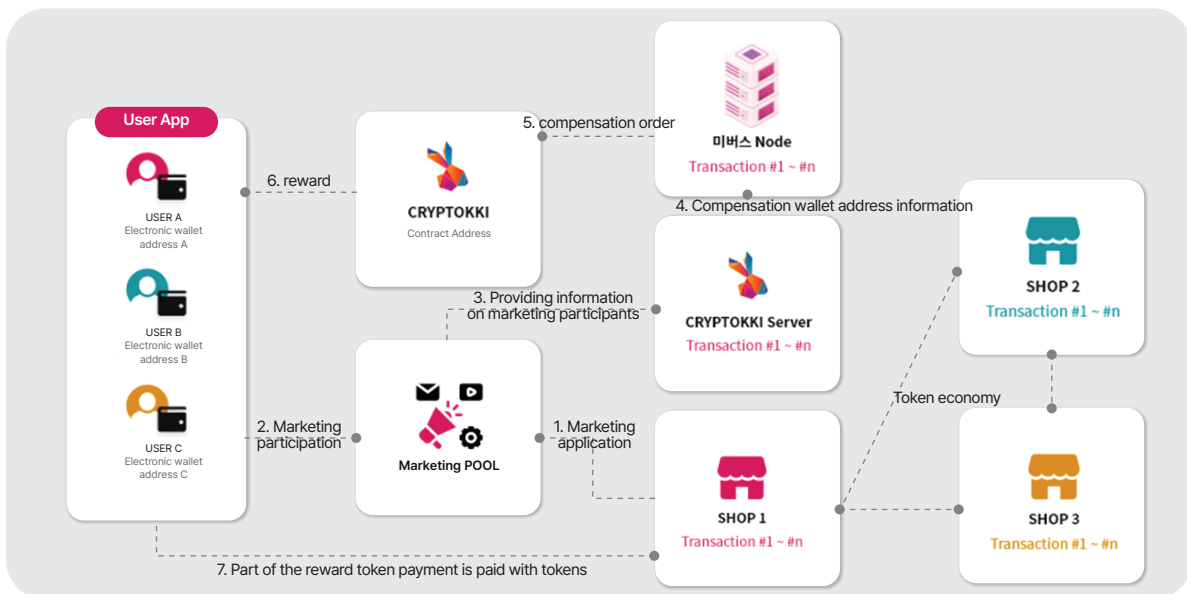
[Figure17] CRYPTOKKI electronic wallet service

### 3.3 CRYPTOKKI Token Economy

First of all, the way to acquire tokens is to purchase them on an exchange. Furthermore, tokens can be rewarded by participating in the marketing proposed by small business operators, such as watching live commerce, making payments, or scanning the QR code of receipts.

Holder's tokens can be used for online and offline marketing proposed by small business operators, that is, online payments on the live commerce marketing platform provided by CRYPTOKKI, and offline payments on payment devices. The payment ratio of tokens among the payment amounts is within 10% to 50%, which is the ratio set by each small business operator. The 10%~50% tokens received by small business operators as payment are not simple fees or discount coupons. It can be used as a payment or as a marketing resources on the live commerce platform. In this way, tokens are circulated as they are settled within the CRYPTOKKI ecosystem.

Through the live commerce marketing platform, the holder of the CRYPTOKKI wallet is constantly rewarded and the generated token is attracting the holder as a customer of the small business operator. The small business operator who receives the customer's token pays other small business operators again, and transactions continue to occur.




There are basically two types of tokens rewarded to holders: First, compensation paid from the resources secured by the revenue of card payment and coin payment through the CRYPTOKKI project. Second, compensation paid to holders of tokens who participate in promotional marketing deposited on the marketing platform by small business operators. A desirable token economy is created through the circulation of tokens secured in the token economy.

### 3.4 CRYPTOKKI Business Model

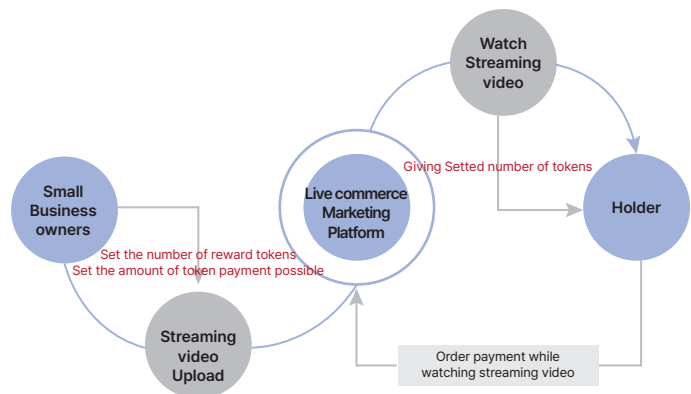
#### 3.4.1 Live commerce marketing platform

The marketing platform allows small business operators to upload promotional content such as images or videos of promotional materials. When uploading content, enter the number of tokens to be paid to holders who view promotional materials, and set the amount of tokens that can be received from sale amount.

Holders can be rewarded with one token per content rewarded by the Foundation while viewing promotional content. And you can be rewarded with tokens provided by each content provider by watching additional promotional content.



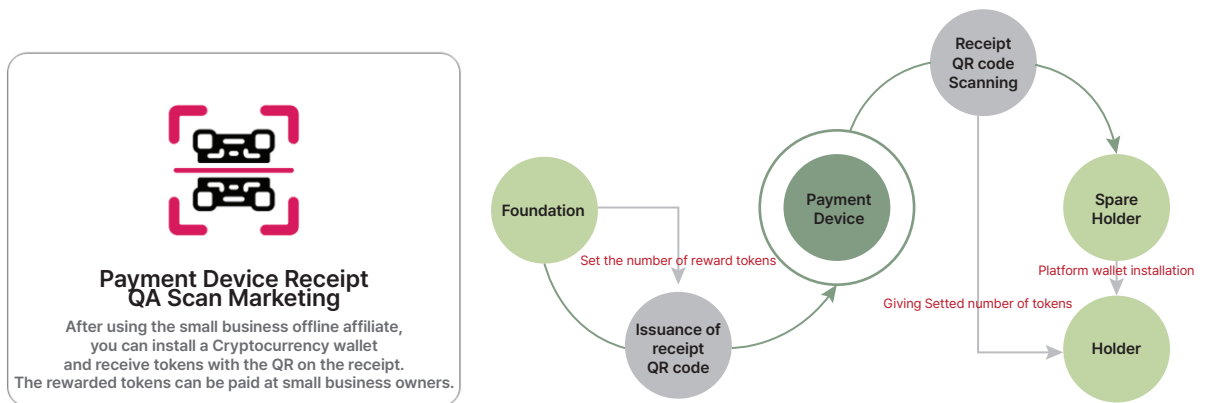
**라이브커머스 마케팅 POOL**  
소상공인의 홍보 마케팅 영상을  
홀더가 매일 시청하면서 보상을 받습니다  
보상받은 토큰은 소상공인에서 결제 가능합니다



### 3.4.2 Credit card payment terminal for token payment

CRYPTOKKI terminal is a card machine used for payments in offline stores. It is an all-in-one payment device that not only supplements the current CAT terminal, but also enables simple payment and token payment provided by fintech companies such as Kakao Pay.

With the CRYPTOKKI terminal, customers of credit card payment and simple payments such as Kakao Pay can be introduced into the project ecosystem. And by scanning the QR code on the receipt received through card payment, the token will be rewarded and new customers will be invited to the CRYPTOKKI ecosystem.



### 3.5 CRYPTOKKI Token Distribution

#### TOKEN Distribution

Division	vesting	Quantity	Rate
Reserve	31-Dec-27	290,000,000	58.0%
Additional Development	31-Dec-25	50,000,000	10.0%
Strategic Partner	31-Ded-25	30,000,000	6.0%
Sale	01-Oct-22	91,930,408	18.4%
Marketing	30-Jun-24	10,000,000	2.0%
Team&Advisor	After December 31, 2025, lock-up is released by 2% every month	10,000,000	2.0%
Exchange Deposit	During the exchange listing period	10,000,000	2.0%
Engineer(Developer)	After December 31, 2025, lock-up is released by 2% every month	8,069,592	1.6%

## 4. Vision of CRYPTOKKI

The market in Korea described above is a huge market with an average daily transaction value of KRW 2.8 trillion and KRW 1,000 trillion per year and 6.5 million small business owners.

Furthermore, 10 million people own virtual assets in Korea. But virtual assets don't have an ecosystem that is properly used other than trading through exchanges. So if a platform that can use virtual asset tokens is safely built in the commerce market of small business owners, it would bring a new paradigm of blockchain.

This is a project for the B2O(Blockchain to offline) market that connects small business owners in Korea who need to strengthen their competitiveness based on a huge market and block chain holders who are oriented to individual rights and a new social structure away from the existing system, namely, a protocol economy. In addition to centralized finance such as credit cards, we lead the transformation by allowing decentralized tokens to be used together in the commerce market. And while maintaining the advantages of centralized finance, we intend to supplement the disadvantages with decentralized blockchain technology. Profits from product sales are processed through centralized finance and turned into cash. Decentralized tokens distributed through the marketing platform connect consumers and small business owners in the real economy and continue to expand into a huge ecosystem by circulating as they are used for transactions among small business owners.

Due to the lack of capital, technology, and manpower, they have become subcontractors for platforms such as major fintech operators and brokerage applications centered on major corporations, and have been burdened with excessive brokerage commissions. We seek to promote regional economic development in which holders and prospective holders who will serve as supporters of small stores, which are on the verge of closure in our local places, participate in the marketing platform, where each of them becomes the main agent and grow together, and furthermore, we intend to form an ecosystem for the development of the national economy.



## 5. CRYPTOKKI'S ROADMAP

### Technology

#### ~2020

- Construction of payment system server
- Development of Ethereum-based Blockchain Node
- Development of credit card payment application 'egforce'
- Development of 'Egg Wallet', a token settlement application for credit card payment
- Integration of SMARTRO payment system

#### 2021

Establishing payment system server 2.0 **1Q**

Developed 'Vitamin Force', a credit card payment application that includes coin payment-based APP TO APP payments **2Q**

Developed Vitamin Wallet, an electronic wallet for APP to APP payment such as coin payment and credit card payment

Developed Klaytn-based blockchain node, CRYPTOOKKI electronic wallet system (Klaytn-based) server construction **3Q**

Developed Android-based payment device

Interworking with KSNET's payment system

Shopping mall system Developed **4Q**

#### 2022

**1Q** Cryptocurrency e-wallet server update in progress

**2Q** Interlocking development of Miverse mainnet ecosystem gate (gas bill solution)

**3Q** Live streaming shopping mall to be completed

**4Q** Payment system server 3.0 to be built

#### 2023

Coin payment kiosk, POSSYSTEM development plan •

Consortium blockchain mainnet development plan •

Token payment system gate development plan •



## 5. CRYPTOKKI의 로드맵

### Business

### ~2020

- Payment interworking contract with SMATRO
- Acquisition PG company of M to O way inc.
- Contract of welcomebank trade receivable collateral financing
- Contract of Welcome Payments sub PG company

### 2021

- VAN company distributor agreement with KSNET **1Q**  
Sub PG company contract with Shuttle Bank
- Fixed sales receivable secured loan contract with Hello Funding **2Q**  
Cryptokki Coin White Paper 1.0 Released
- Android technology contract with Cube developer **3Q**  
All-in-one payment terminal for small businesses Launching  
Freelance payment kiosk dedicated to singing practice Launching  
Oopbird Co., Ltd. Distributor contract  
Yeneda Payments Co., Ltd. Distributor contract  
GoodFriends Co., Ltd. Distributor contract
- Cryptokki Coin Listed on Overseas Exchange (Digifinex) **4Q**  
Affiliate contract exceeded 5,000 members

### 2022

- 1Q** Distributor contract with Korea Disabled Media Human Rights Association
- 2Q** Contract of Miverse Labs Co., Ltd.  
Mainnet interlocking technology development  
Caddy P-only payment system launched  
Cryptokki Coin White Paper 2.0 Released  
Cryptokki wallet users exceed 50,000  
Cryptokki additional exchange listing promotion
- 3Q** Plan to supply payment terminals for hospitals and clinics with the Korean Bodycard Exercise Association
- 4Q** Plan to Cryptokki token commerce payment project grand launching

### 2023

- Plan to Token commerce payment linkage service. •



## 6. CRYPTOKKI TEAM COMPOSITION

### 6.1

#### TEAM

#### FOUNDER

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**CRYPTOKKI FOUNDER**

**Kim kang-soo**

CRYPTOKKI project design  
CRYPTOKKI Singapore Foundation established  
CRYPTOKKI Launched in Korea

#### Main Team

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**CRYPTOKKI CEO**

**Na won-yeong**

Egg Pay | Payment token settlement system development  
Vitamin Pay | Token payment card system development  
CRYPTOKKI | Token management and commerce payment interworking platform wallet development



**CRYPTOKKI CTO**

**Cho Hyun-woo**

PG system design and development  
Blockchain node design and development  
CRYPTOKKI design development



### Accounting Team

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Team Leader  
**Lee Young-sook**  
General Manager  
of Payments Settlement



Deputy General Manager  
**Kim Kyung-mi**  
Payment Merchant  
Settlement Accounting



Assistant Manager  
**Kim Hyung-min**  
Payments affiliate  
sales report



Staff  
**Jang Jooyeon**  
Payment History RM

### Marketing Team

---



CMO  
**Kim Soo-cheol**  
Payment system PR  
and marketing manager



General Manager  
**Ahn Ki-cheon**  
Payment distribution  
network management



Assistant Section Manager  
**Kang Eun-bi**  
Merchant opening  
Affiliate review



Assistant Section Manager  
**Jung Yoo-jin**  
SNS, website management and CS

### Research Develop Team

---



Team Leader  
**Seong Won-sang**  
blockchain node



General Manager  
**Choi Yong-geun**  
CRYPTOKKI Server Maintenance  
and conservation



Assistant Manager  
**Ahn Dong-wook**  
Vitamin Server Maintenance  
and conservation



Assistant Manager  
**Lee Rim**  
Payment device firmware

### Customer Satisfaction Team

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Assistant Manager  
**Kang Mi-yeong**  
CRYPTOKKI holder  
history management



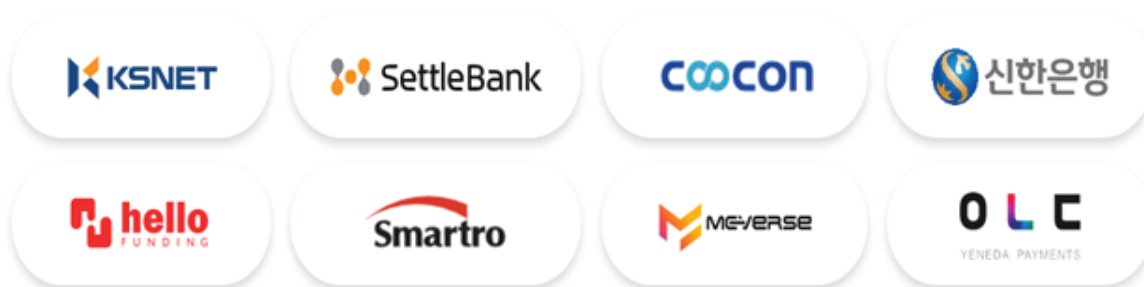
Assistant Section Manager  
**Joo Seul-gi**  
CRYPTOKKI Holder C/S



Staff  
**Gwak Jin-hui**  
CRYPTOKKI SNS,  
channel management

## 6.2 Partners

### Partners



## 6.3 Payment distributors



## 7. Disclaimer

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