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# Web3 Business Model Innovation Approach and Cases of Korean Game Giants

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## Abstract

*We analyze the types of Web3 business model innovation (BMI) of the six major Korean game companies by market size. As a result of the analysis, Nexon is watched as the adapter. It introduces blockchain (BC) layer 2, 'Polygon' to the extended ecosystem such as the creator's secondary creation, item utility, and compensation experience using the existing core intellectual property (IP). KakaoGames and Neowiz are watched as the adventurers. KakaoGames introduces BC layer 2, 'Polygon' and 'Near Protocol' to various experiments using tokenomics models in casual games and massively multiplayer online role-playing games (MMORPGs) using several existing popular IPs. Neowiz also introduces BC layer 2, 'Polygon' and 'Avalanche' to the IntellaX platform using existing game IPs. As the reinventor, Netmable positions as a game publisher that releases third-party games based on multi-chain infrastructure such as Klaytn, BNB Chain, Near Protocol, Aptos Foundation, and introduces BC to new core IPs. Finally, there are Wemade and Com2us as the mavericks. They aim to be the Web3 platform operators that create a BC layer 1 ecosystem and provide services that encompass BC games, GameFi, and non-fungible tokens (NFTs). Here are the implications of the four types of BMI. In terms of infrastructure, Nexon, KakaoGames, and Neowiz try to introduce a part of cross-chain, whereas Netmable tries to move toward a complete multi-chain strategy, and Wemade and Com2us also try to consider multi-chain, even if they have the full BC introduction. In terms of defending against market decline, Nexon and Netmable have a different position. Nexon which has a greater market dominance, only tries to continuously experiment, but Netmable is aggressively focusing on monetizing new products. Attacks on growth aspirations also show two different positions. KakaoGames and Neowiz only try to aggressively explore, while WeMade and Com2us try to set new standards for industrial innovation.*

*Keywords: Web3, Business Model Innovation (BMI), BMI Approach, Korean Game Giants.*

## 1. Introduction

The Over four billion people use Web2 platforms which include a variety of services usually offered by a handful of big tech. companies like Apple, Amazon, Meta, and Alphabet. Unfortunately, some side effects like

super-centralization, misuse of information, misinformation, and so on. With Web3, it is expected to fix some of these problems using a new set of technical capabilities and design paradigms. Asia is likely to be the driving force behind the global adoption of Web3 games in the coming years. Today, nearly two-thirds of the world's largest game companies are Chinese, Japanese, and Korean [1].

South Korea (Korea) takes gaming more seriously than most other countries, making it an integral part of their culture that is embraced by all, from gamers to the government. This unique societal acceptance towards gaming has placed this peninsular at the forefront of most major paradigm shifts in the gaming industry. S-Korea has demonstrated a remarkable influence on the gaming industry, fueled by consistent innovation and a pure passion for gaming. Web2 game companies are now moving to web3. The adoption level from legacy gaming firms is quite amazing. For instance, KakaoGames' 'Buddy Shot' is now one of the best Web3 games. The Web3 native ecosystem is also seeing an increase in full support for studios switching to Web3 such as infrastructure, non-fungible token (NFT) marketplaces, and marketing, as well as their own games. The peculiarity of S-Korea's Web3 game ecosystem is that venture capitals (VCs), legacy companies, new studios, and infrastructure suppliers have all begun to work together to form an ecosystem, especially due to the government's regulations on cryptocurrency games. For evolving into Web3 games, unique experiences are needed, which require innovations such as game mode, monetization, in-game asset management, and so on [2]. So, the purpose of this study is to examine how Web3 business model innovation of Korean game giants who are ready to accept Web3. To this, representative use cases are investigated.

## 2. Literature Review and Theoretical Background

### 2.1 Previous Literature Review

Table 1 displays the most-cited five papers among the 109 papers from searching for Google academic papers by using the keyword "academic paper of business model innovation of Web3 gaming industry between 2019 and 2023" as of August 22, 2023. In short, three of the five papers are metaverse, and the rest are NFT and cryptocurrency, respectively.

**Table 1. Summary of previous research results**

| Year | Authors | Key points |
|---|---|---|
| 2022 | A. Trozze, J. Kamps, E.A. Akartuna and F.J. Hetzel | ◆ Ponzi scheme & high-yield investment programs are most frequently discussed in cryptocurrency fraud study. |
| 2022 | B. Hong, and D. Roubaud | ◆ NFT research agendas are presented in important but unanswered areas related to asset prices, tokenomics, and regulations. |
| 2023 | A. Koohang, J.H. Nord, K.B. Ooi, G.W.-H. Tan, M. Al-Emran, E.C.-X. Aw, A.M. Baabdullah, D. Buhalis, T.-H. Cham, C. Dennis, V. Dutot, Y.K. Dwivedi, L. Hughes, E. Mogaji, N. Pandey, I. Phau, R. Raman, A. Sharma, M. Sigala, A. Ueno and L.-W. Wong | ◆ The study on the metaverse provides perspectives on several important areas such as marketing, tourism, manufacturing, operations management, education, retail, banking services, healthcare and human resource management that are likely to be affected by metaverse adoption and use. |
| 2023 | K.G. Barrera and D. Shah | ◆ The study proposes a new metaverse definition and organizational framework incorporating literature reviews and industry expert perspectives so that metaverse-induced changes contribute to marketing |

| 2023 | R. Chengoden, N. Victor, T. Huynh-The, G. Yenduri, R.H. Jhaveri, M. Alazab, S. Bhattacharya, P. Hegde, P.K.R. Maddikunta, and T.R. Gadekallu | activities and give initiatives to future research. |
|---|---|---|
| | | ♦ The study provides a review of metaverse-based healthcare, highlighting the latest metaverse adoptable technologies for healthcare, potential applications, and related projects. |

In 2022, after selecting 391 academic records, 63, after selecting 394 gray documents, 53 were analyzed, and private, government and academic experts attended the expert interview, the research discussed 29 types of cryptocurrency fraud in academic papers and 32 types in gray literature. As a result, ponzi scheme and high-yield investment programs were most frequently discussed. Interviewers cited pump-and-dump methods and ransomware as the most feasible threats. So, this study suggests, the cryptocurrency fraud study is developing rapidly, quantitatively and on a scale. It is emphasized that better collaboration between sectors is needed to solve identified problems and consensus on the definition surrounding cryptocurrency fraud is needed [3].

After the popularity of the NFT has risen, there has been an attempt to perform a systematic review in 2022. Considering the items of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA), the study conducts a systematic review of the research work on NFT. The results reveal that there are 13 published articles in the targeted journals, and they are mainly focused on the asset pricing area. Thus, research agendas for the future are presented in a few of very important but unanswered areas related to asset prices, tokenomics, risks and regulations [4].

Other three papers are studied about metaverse in 2023. Metaverse is a virtual platform using extended reality technologies, i.e. augmented reality (AR), virtual reality (VR), mixed reality (MR), 3D graphics, and other emerging technologies allowing real-time interactions and experiences in ways that are not possible in the physical world. The first paper provides perspectives on several important areas such as marketing, tourism, manufacturing, operations management, education, retail, banking services, healthcare and human resource management that are likely to be affected by metaverse adoption and use [5].

The second paper about the metaverse traces the evolution of the metaverse concept which suggests a shift from a narrow perspective (single virtual worlds) to a broad perspective (multiple hyperconnected virtual experiences). A systematic review of 164 articles and a content analysis of metaverse viewpoints of 78 business professionals helps to identify emerging themes, propose an organizing framework and assess implications for marketing practice. Due to the lack of clear understanding of metaverse's scope and subsequent marketing practices, the study proposes a new metaverse definition and organizational framework that incorporates a wide range of literature reviews and industry expert perspectives so that metaverse-induced changes contribute to marketing activities and give initiatives to future academic research [6].

In the last paper, metaverse is highlighted as a technology emerging in the digital space of the medical field, because it is a collection of artificial intelligence (AI), VR, AR, medical device Internet, robotics, quantum computing, and many other technologies. The convergence of these technologies ensures immersive, intimate, and personalized patient care, and provides adaptive intelligent solutions eliminating doctor-patient barriers. This study provides a comprehensive review of metaverse-based healthcare, highlighting the latest technologies, metaverse adoptable technologies for healthcare, potential applications, and related projects [7].

### 2.2 Theoretical Background

Business model innovation (BMI) helps to improve value creation while changing value propositions to customers and the operational models underlying them. The former can change the choice of target customers

or of product delivery and revenue models, while the latter focuses on profitability, competitive advantage, and how to drive value creation by deciding how to propose value. It is about where to play a role in the value chain, what cost models are needed to ensure attractive returns, and what organizational structures and capabilities are essential for success. Chesbrough who advocated six BMI phases in 2007, argues that for completing the BMI process, several barriers should be examined, and successful leadership should be exercised, especially for organizational change. Even if BMI is meaningful to business success, it is very difficult to achieve it, so the organizational process should also change. In other words, companies must identify internal leadership in BMI to manage the outcome of the process and provide new business models, and operational managers' insights are important if local-level marketing goals must be subordinate to corporate goals. While embracing corporate culture and new business models, the current business model effectiveness must remain the same until a new business model is completed, in which way the BMI process framework helps companies create new business models out of the pitfalls of early business models [8, 9].

BMI is an important strategy that leads value creation to value acquisition even in Web2 era and it is a response to declining competitiveness and a decisive means of capturing new opportunities. According to Boston Consulting Group (BCG), the BMI process is "a process that changes the value promised to customers and the value provided to utilize new revenue sources," and is clearly more complicated than traditional product or service innovation. Of the 1,500 senior executives surveyed annually by BCG in 2014, 94% reported that their company participated in BMI, and 27% said they were actively pursuing BMI. Although large-scale change efforts show the complexity of making it difficult for competitors to imitate, this provides successful innovation with a more continuous competitive advantage [10].

As shown in Figure 1, understanding four distinct approaches suggested by BCG can help companies make effective choices in designing the path to growth. For understanding which BMI approach is best suited to the enterprise, it is important to understand the horizontal and vertical axis. In terms of 'impetus,' it asks whether companies are defending against external threats such as commercialization, new regulations, and recession, and what are the most attractive opportunity areas in terms of 'focus,' and whether they are core, adjacent, or opportunity areas in the market. These two factors define four BMI approaches. Within each of them, companies can employ different tactics to successfully rebuild their models and make different choices [11].

The adapters approach is used when it is unlikely to prevent underlying disruptions even if core businesses are recreated. Adapters try to explore adjacent businesses or markets, and in some cases withdraw core businesses. They usually build innovation engines to continue to drive experiments to find a successful "new core" space with the right business model. The adventurers approach aggressively expands the business's position by exploring into new or adjacent areas. This requires understanding the company's competitive advantage and making careful bets on the new application of that advantage to succeed in the new marketplaces. The reinventors approach is deployed in the light of fundamental industrial challenges such as commoditization or new regulations, where a business model is deteriorating slowly, and growth prospects are uncertain. Under these circumstances, the company should reorganize its operations to innovate its customer value proposition and monetize new superior products. Lastly, the mavericks approach refers to transforming business models to expand potentially more successful core businesses. It can be a start-up or rebellious established companies. They employ their core advantage to revolutionize their industry and set new standards. This requires the ability to continue to evolve the competitiveness or benefits of the business to drive growth [10].
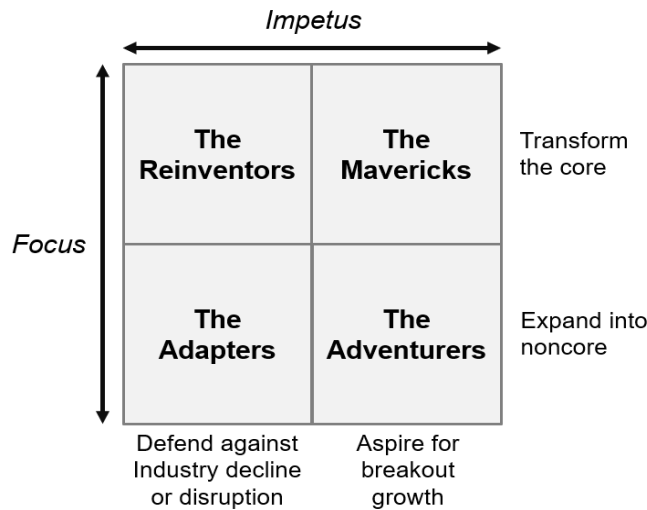
**Figure 1. Business Model Innovation (BMI) Framework by BCG**

## 3. Research Design

This study focuses on the Web3 BMI in Korean game industry and the research framework is shown in Figure 2. Above mentioned four BMI approaches can be investigated on several use cases [1, 2].



**Figure 2. Four Web3 BMI Approaches & Top Six Korean Companies (Jan. 30, 2023)**

Along Figure 2, the research questions are as follows:

1) Which of the six companies is the adapter for the BMI approach?

2) Which of the six companies is the adventurer for the BMI approach?

3) Which of the six companies is the reinventor for the BMI approach?

4) Which of the six companies is the maverick for the BMI approach?

Based on the Web3 BMI framework, this study searches the business activities of six candidates of Korean game industry from 2022 to 2023 by digging financial, market data, company documents and press releases during this period [12].

## 4. Results

### 4.1 Adapter defending against Disruption and expanding into the Noncore

This approach does not confuse current core businesses, requiring the adapter to build innovation engines, mainly exploring adjacent businesses, continuing to drive experiments to find successful "new core" spaces with appropriate business models. In the process to find "new core", Nexon takes existing core, MapleStory to Web3. It is a popular 2D massively MMORPG that has existed since 2004 and is still popular today. The core fun of MapleStory is the reward experience. It shows how items are used through continuous content updates. It provides the fun of obtaining an item by adjusting the scarcity of the item through real-time operation like server check, monitoring, follow-up management, etc. after obtaining the item.

Even if it is possible to mass-produce content and control the rarity of items by employing lots of R&D personnel, NFTs needs to be applied because the existing method is difficult to sustain the current business when Web3 is coming. So, Nexon takes its first steps into the NFT marketplace and announced a host of new projects including a new MMORPG. The new projects have NFTs at its core, allowing users to see their in-game items, currencies and other transferable assets turned into tradable NFTs that they can trade on marketplaces to other players. 'MapleStory Universe' using 'Polygon' BC operated by Nexonblock was announced on June 2022, teasing four projects including a new MMORPG game called 'MapleStoryN' revolving around NFTs, software development kit (SDK), modification (MOD), and MaplestoryN Mobile, as shown in Figure 3 [13-15].

BC allows game servers to create limited items in the form of NFTs and creators are updating some of the content that the development team has updated, and items are extended to various content they create, allowing them to expand their use dramatically. In addition, BC makes it possible to overcome the difficulty of managing item rarity. It was difficult to predict the number of items growing in time series according to the number of users, but if the total production of each item is limited through BC and only a fixed number is generated every cycle regardless of the number of users, it can solve the inflation of goods and manage rarity. So, 'MapleStory Universe' has a variety of content developed by development teams and creators, focusing on NFTs for defending against industry disruption. With SDK provided by 'MapleStory Universe,' users can create other derived apps based on acquired NFTs. It could be a possible "new core" space in future. MMORPG is a game in which users create their own characters and play while owning items, and digital asset ownership can be exercised on a blockchain (BC) basis. In other words, major assets, items, and characters were transferred to users through NFTs, allowing them to fully recognize their ownership. On MapleStory N SDK, users can create various MapleStory NFT-based apps [14, 15].
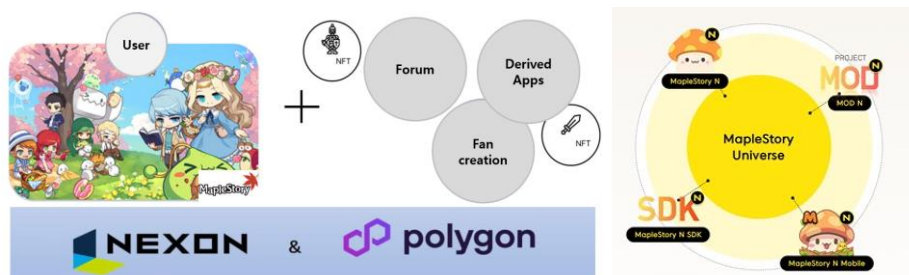


**Figure 3. Expansion of item utilities thru blockchain based on MapleStory U**

MOD N is a platform where users can develop creative content and games using various assets from

MapleStory [15]. MOD belongs to the user generated content (UGC) category in which developers or users can create and play content directly through resources. This is also called a "sandbox game" because it has a form in which users play without being stereotyped in the game as if they were playing with sand. 'MapleStoryN Mobile' brings NFTs of characters played on MapleStroyN to enable mobile play anytime, anywhere.

### 4.2 Adventurer aspiring for Breakout Growth and expanding into the Noncore

The adventurer approach is to expand the footprint of the business by venturing into adjacent areas after exactly understanding the company's competitive advantage. KakaoGames, a game company affiliated with Kakao, has grown in its early appearance by strengthening its competitiveness through Kakao's messaging platform, KakaoTalk, holding nearly 95% of the Korean messenger market, and casual mobile games using high-profile KakaoFriends characters. Based on this, KakaoGames' subsidiary, Metabora (previous FriendsGames founded in 2018 developing casual games utilizing character IP of KakaoFriends) has a BC game platform, 'BORA' operated by Metabora Singapore (previous BORANetwork). Metabora, has expanded its ecosystem by renewing BORA portal building a cross-chain environment with global BC networks starting with Polygon, the extended Ethereum in 2022 and Near Foundation, the open finance solution in 2023. It started to launch BC content regardless of genres and to raise awareness of on-boarding games. In addition to BORA Battle and sports fan tokens, BORA is diversified into on-boarding games of various genres like NFT puzzle games and MMORPG [16, 17].

In 2022, BORA launched MMORPG, 'ArcheWorld' using its 'Akiage' IP and 'Birdie Shot' in the casual sports game using KakaoFriends IP. MMORPG provides users with the opportunity to expand and complete game content by playing and interacting with large communities of other players in the virtual world. Casual games are also preferred because of their low hardware requirements, featuring short sessions and simple controls. Unlike RPGs relying on in-game spending, casual games generate revenue through in-app advertising [18]. Casual games are relatively easy to design and modify the game economy and they have great synergy with BC. Therefore, BORA began to actively bet on casual games in various fields such as puzzles, sports, and social casinos [19].

An online multiplayer PvP game platform 'Skill Blitz' (former BORA Battle), a joint project of Neptune, KakaoGames, Mobirix and Metabora started in Sep. 2023. In 'Skill Blitz,' players can compete with other gamers in a wide range of casual games like solitaire, bingo & puzzles, and exchange the in-game currency & items earned from games with BORA, MATIC and USDC at the BORA platform [20].

Another adventurer, Neowiz has two tracks of Web3 strategy, Neofin, a Defi platform and IntellaX, a game platform where Neowiz game lineups like "Crypto Golf Impact" and "Brave Nine" has been on-board in 2022 and Polygon attracted attention as a Layer 2 solution that not only compensates for the slow speed, which is considered a disadvantage of the Ethereum network, but also reduces gas costs (commissions). The reason why Neowiz joined hands firstly with Polygon without developing its own mainnet is because there is already a BC that is stably established. So, rather than focusing on developing its own mainnet, Neowiz is focusing on making the products needed for its platform better. In Sep. 2023, Neowiz announced a strategic ecosystem partnership with Avalanche, scalable, customizable, efficient and eco-friendly BC [21-23].

In May 2023, IntellaX launched the $10m Gaming Accelerator Grant Program for talented game developers building on the Polygon Network. It aims to revolutionize the Web3.0 gaming landscape by empowering developers with financial support and resources to create innovative and high-quality games for IntellX's ecosystem. It ultimately seeks to expand the IntellaX ecosystem by attracting and onboarding new game

developers and to encourage the adoption of BC technology in the gaming industry through the support of Web3 gaming projects [24].

### 4.3 Reinventor defending against Disruption and transforming the Core

The reinventor approach is to rebalance operations to monetize new superior products in the face of uncertain business growth prospects and issues such as new regulations. Netmarble has a two-track strategy through Klaytn-based BC game platform, MARBLEX and BSC-based entertainment content platform, ITAMCUBE [25]. MARBLEX as a BC subsidiary, is a kind of new product. Netmarble aims to overcome the slowdown in game market growth. As shown in Figure 4, MARBLEX selects a publishing business based on a multi-chain structure for market expansion. Because of the limitations of the side chain structure connected to the single BC, Klaytn, MARBLEX started to connect to various BCs through its own bridge service, WARP to create a multi-chain foundation that increases user accessibility, and BNB Chain, Near Protocol, and Aptos Foundation joined. The publishing business was launched for the first time in Korea by Netmarble. MARBLEX also provides services like NFT minting, token management, DApp service connection, and wallet linkage at MBX. On this, 3rd party game developers can focus only on game development and onboarding them to the MARBLEX ecosystem [14, 26]



**Figure 4. Ecosystem of MARBLEX, the subsidiary of Netmarble**

Because of Korean regulation MARBLEX launched 'Meta World: My City' abroad in April 2023. It supports iOS, Android, and PC users, but its biggest appeal is its earning opportunities. Meta World as a metaverse with virtual real estate and building collections features board game mechanics and the opportunity to have virtual lands and buildings in the metaverse. Playing the game and the different modes available provide opportunities to earn special currencies to invest in getting new features or convert into crypto and cash out for physical money [27]. MARBLEX already began to reorganize tokenomics to enhance game synergy by using on game token for multiple games. So, In April 2023, Netmable revealed 'Union Tokenomics' of the MARBLEX ecosystem. According to its White Paper, for each game, there is a "Game Token" and on top of that, there is the "Public Token" called MBX as the key currency for the ecosystem. However, Game Tokens and MBX can't be exchanged directly, but through a "Bridge Token" called MBXL. So, MBXL acts as a bridge between the various Game Tokens [28].

### 4.4 Maverick aspiring for Breakout Growth and transforming the Core

The maverick approach is to expand potentially more successful core businesses, which can be approached by rebellious established companies using their existing core advantages to establish new standards. Unlike large-scale game companies where IP is well established, small and medium-sized companies struggle more to survive without such a foundation. In fact, injecting BC into existing IPs is less burdensome than creating

AAA games requiring enormous resources, time, and costs to exceed $100m. Therefore, it is an attractive strategy for small and medium-sized game companies to target emerging Web3 BC game market to secure new growth engines. The reason for entering the BC game market is that they can raise funds from new sources through tokens. Existing game companies rely on stock IPOs as a major source of financing, but the emergence of BC games can sell tokens directly in the open market or attract private investment before token launch. For instance, Wemade and Com2uS raised $250 million and $25 million through tokens, respectively, and the funds raised were used to form a BC developer team, build Web3 Layer 1, and secure new content IPs [18].

Wemade unveiled the potential of BC game very proactively and thanks to the success of "Mir 4 Global," it has secured large users. In October 2022, it released its own mainnet, "Wemix 3.0" on layer 1 which is expected to expand the ecosystem through three major platforms like blockchain game platform 'WemixPlay', 'NILE' that can create and manage 'decentralized autonomous organizations (DAOs)', and 'Wemix.Fi' that can be used for Defi service based on the infrastructure of 'Wemix3.0'. Figure 5 shows the Wemix ecosystem. As of July 2023, WemixPlay has operated ca. 30 games, Wemix.Fi offered services like stablecoin (Wemix Dollars), swap, staking, and lending. 'NFT Is Life Evolution (NILE)', a NFT platform, provides joint investment and NFTi services using marketplace and DAO [12]. The reason why Wemade launched its own chain is primarily to maximize the value that occurs across the blockchain. With the introduction of Wemixchain, WemixPlay, WemixFi, and WimixDollar, Wemix will be able to directly operate and expand the value chain throughout the BC ecosystem.



**Figure 5. Wemade's Wemix ecosystem**

Com2us established in 2007 and focused on developing casual mobile games, has grown rapidly into a mid-sized game company. Known for its agile adaptability to industry change, Com2us tries to transfer the content ownership to users and its Web3 strategy recognizes RPGs with in-game inventory or casual games with simple game economy design having synergy with blockchain. Its XPLA is a BC platform based on the proof of stake (PoS) mechanism and was developed using Cosmos SDK. After its Layer 1 strategy was hampered by FTX crisis, it is moving to focus on building the infrastructure needed for developers such as Ethereum Virtual Machine (EVM) compatibility and layer 2 solution development as well. It has a roadmap for an infrastructure such as introducing XATP (XPLA Alternative Transaction Protocol), strengthening EVM compatibility, adding 'InterPlanetary File System (IPFS)' storage nodes, and providing layer 2 support. The XATP system was developed to allow transaction fees to be used by partners' governance tokens in addition to XPLA coins to promote scalability [18, 29].

As shown in Figure 6, 'XPLA' mainnet is built based on 'Tendermint Core'-based BC engine and COSMOS SDK. So, it has an interchain function that can be connected to other BC platforms. It also has stability, fast speed, and scalability using POS algorithms. The existing C2X token is converted to the native coin 'XPLA'

and has a governance coin status, and the existing C2X platform remains [30].



**Figure 6. Technical Features of XPLA Mainnet**

## 5. Conclusion

We summarize the result, as shown in Table 2. As the adapter, Nexon introduces BC layer 2, 'Polygon' to the existing core IP with the extended ecosystem such as creators' secondary creation, utility of items, and reward experience. As the adventurer, KakaoGames introduces BC layer 2, 'Polygon' and 'Near Protocol' to existing IPs with the various experimentation through the tokenomics models in casual games and MMORPG, and Neowiz also introduces BC layer 2, 'Polygon' and 'Avalanche' to the IntellaX platform utilizing existing game IPs. As the reinventor, Netmable introduces BC elements into new core IP as game publisher releasing the third party games based on multichain infrastructure such as 'Klaytn', 'BNB Chain', 'Near Protocol', and 'Aptos Foundation'. Lastly, as the maverick, Wemade aims to be a platform by providing services encompassing BC games, GameFi, and NFTs based on Layer 1 ecosystem, Wemix3.0, and Com2us encompasses a variety of content including Web3 games, NFT marketplaces, and metaverse services based on Layer 1 ecosystem utilizing Cosmos SDK.

**Table 2. Summary of Results**

| Approach & Case of Web3 BMI | Key Results |
|---|---|
| **1. Adapter:** | |
|   Nexon's Maple **Story U** | - Introducing blockchain (Polygon) to the existing core IP with the extended ecosystem like secondary creation, utility of items, and reward experience |
| **2. Adventurer:** | |
|   1) KakaoGames's **BORA** | - Introducing blockchain (Polygon, Near) to existing IPs through the various experimentation with tokenomics models in casual games and MMORPG |
|   2) Neowiz's **IntellaX** | - Introducing blockchain (Polygon, Avalanche) through utilizing existing game IPs on the IntellaX platform |
| **3. Reinventor:** | |
|   Netmable's **MARBLEX** | - Introducing blockchain into new core IP and releasing 3rd party games based on multichain infra (Klaytn, BNB, Near, Aptos) as game publisher |
| **4. Mavericks:** | |
|   1) Wemade's **Wemix** | - Aiming to be a platform by providing services encompassing blockchain games, GameFi, and NFTs based on Layer 1 ecosystem, Wemix3.0. |
|   2) Com2uS's **XPLA** | - Encompassing a variety of content incl. Web3 games, NFT marketplaces, and metaverse services based on L1 ecosystem utilizing COSMOS SDK |

In conclusion, in terms of the infrastructure, Nexon, KakaoGames, and Neowiz introduce cross-chain BC

layer 2 like 'Polygon' and it means that they push for partial introduction of BC for the expansion of adjacent areas on the vertical axis of BMI approach. On the other hand, Netmable tries to move from the partial introduction totally to the multichain strategy. Even if Wemade and Com2us build their own BC layer 1 mainnet by pushing for full introduction of BC, they also try to consider the multichain function. The defense against market decline shows the difference stances between Nexon and Netmable. Nexon only attempts continuous experimentation, but Netmable aggressively focuses on monetizing new products. The attacks for growth aspirations also shows two diffent stances. KakaoGames and Neowiz only try to aggressively explore, however Wemade and Com2us try to set new standards for industrial innovation.

This study gives some implications. If the purpose of Web2 game companies is to maximize profits, what game companies that want to evolve into Web3 are aiming for is "maximizing sustainability." In other words, it is an innovation in a worthwhile business model if sustainability is implemented in a way that creates loyal customers with services and provides them with rewards such as stock options, rather than leveraging tokens and NFTs for their guests. For example, it is judged that using a powerful IP is one of the good BMI strategies. In Web2 era, killer services appeared after infrastructure was installed. The same is true of Web3 era. Web3 market is still very small in terms of infrastructure like Ethereum and Polygon, so there are still many opportunities for infrastructure. When successful infrastructure comes out, well-made services will come out. Even if the strength of game companies is still content, it is still possible to distinguish the BMI types by the degree of introduction of infrastructure.

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