A Study on NaverZ's Metaverse Platform Scaling Strategy

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Abstract

We look at the rocket life stages of NaverZ's metaverse platform scaling and investigate the ignition and scale-up stage of its metaverse platform brand, Zepeto based on the Rocket Model (RM). The results are derived as follows: Firstly, NaverZ shows the event strategy by collaborating with K-pops, the piggybacking strategy by utilizing other SNSs, and the VIP strategy by investing in game and entertainment content genres in the 'attract' function. In the second 'match' function, based on the matching rule of Zepeto, the users can generate their own characters and "World" with Zepeto Studio. However, for strengthening the matching quality, NaverZ is investing in the artificial intelligence (AI) based companies consistently. In the 'connect' function, NaverZ's maximization of the positive interaction is possible by inducing feed activities in Zepeto & other SNSs and by uploading attractive content for viral effects in the ignition. For facilitating this, NaverZ expands the scale to other continents like Southeast Asia and Middle East with the localization strategy inclusive investment. Lastly, in the 'transact' function, based on three monetization experiments like Coin & ZEM, user generated content (UGC) fee, and advertising revenue in the ignition, NaverZ starts to invest in NFT platforms and abroad blockchain companies.

Keywords: *Platform Scaling, Locket Life Stages, Metaverse, NaverZ, Zepeto*

1. Introduction

Korean giant Internet company, Naver's efforts to attract young generation has been seen in several brand names like messaging app, Line, selfie app, Snow, and avatar app, Zepeto. Now, in the hot trend of metaverse which makes Roblox, Epic Games and other gaming giants, a Naver subsidiary, NaverZ operates the 3D-avatar app, Zepeto evolved from Snow in 2018. Zepeto enables creators to develop 2D and 3D content for mobile phones, personal computers (PCs) or virtual reality (VR) devices and starts to provide new value proposition of the entertainment and gaming on current social networking experiences on Zepeto [1].

According to the Financial Supervisory Service on April 20, 2022, NaverZ recorded KRW38 billion (bn) in sales, up 339% from the previous year, while operating losses and net losses rose 56% and 487% to KRW29.5 bn and KRW112.9 bn, respectively. Zepeto joins leading companies such as Gucci, Nike, Starbucks, Samsung Electronics, and Hyundai Motor with about 20 million (mn) global monthly active users (MAUs), the largest number of metaverse platforms developed by Asian companies [2] This study aims to investigate

Zepeto's metaverse operator, Naver Z's ignition and scale-up stage based on the Rocket Model (RM).

2. Literature Review and Theoretical Background

2.1 Previous Literature Review

The discourse characteristics of the metaverse Zepeto has been examined with the concept of identity. In results after looking at the fact that the main user base of Zepeto is generation (gen.) Z, and that it features avatars in discourse materialization, the identity does not exist as an essential characteristic, but is constructed and negotiated by an individual's actions, activities, and interactions with others. Users embody themselves through visual and behavioral modes through avatars, and this is done in a way that is more consistent with the community in the metaverse. Users more explicitly identify or construct their identities through linguistic elements of text and voice. Within the practice of discourse production and consumption of Zepeto, gen. Z produces and consumes text in multimodal, and constructs their identity by discourse sharing their experiences of metaverse [3].

Analysis of the metaverse platform, Zepeto in a study of metaverse construction principles and detailed functions shows that it provides creation through map construction 'Build-it' and 'Zepeto Studio.' Items and content are diverse and economically active. In conclusion, the direction of what is needed to activate the metaverse and how to utilize the virtual assets generated from the metaverse in the real world has been confirmed through metaverse-related technologies [4].

Metaverse breaking the boundaries between real-world space and virtual space, has the potential to escape from physical time and space constraints. It is necessary to match each other's necessary services by providing metaverse-oriented cultural content and it includes experienced cultural content such as K-pop and K-beauty, away from cultural content that are developed around history museums. Therefore, a metaverse-based cultural content matching platform is proposed, where users can experience cultural content directly or indirectly [5]. As shown in Table 1, the summary of previous research results are as follows: On NaverZ's metaverse platform, Zepeto, the identity is constructed, negotiated by individual's activities & interactions and Zepeto provides creation through map construction 'Build-it' and 'Zepeto Studio.' Lastly, Zepeto provides metaverse-oriented cultural content such as K-pop and K-beauty.

Table 1. Summary of Previous Research Results

Year	Authors	Key points
2021	**Y. Shin**	On Zepeto, identity is constructed, negotiated by individual's activities & interactions.
2021	**K. A. Lee**	Zepeto provides creation through map construction 'Build-it' and 'Zepeto Studio.'
2021	**J. G. Kim**	Zepeto provides metaverse-oriented cultural content such as K-pop and K-beauty.

2.2 Theoretical Background

The advantage of the RM starting from developing ventures' platform in exchange for mutually co-operative labor or service, is to design new business models in response to technological change. The ultimate benefits of this model are catching good technology, product & service, establishing strong network effects in platform, and cooperating among participants. Platform business can create significant value through acquisition, matching and connection of two or multi side user groups to enable them to transact [6].

The RM shows five functions of platform business: At launch of the rocket, the platform attracts a critical mass of customers on both sides of the market in the first 'attract' function. In the second 'match' function, the ability to filter customers with the right choices creates value. For effective matching, results must be

relevant, timely and filtered for each customer's needs. In the third 'connect' function, participants exchange information each other. In the fourth 'transact' function, a transaction has many forms such as a product, a contract, and a message. The last 'optimize' function is a process for continuous platform enhancement. Given the dynamic nature of platform business, the data driven optimization allows platform businesses to find the right balance between all sides of the market and to optimize all the matching, connecting and transacting functions of the platform.

These functions can be examined across whole life stages of platforms and there are four rocket life stages of a platform: Pre-launch, when the platform is designed and built prior to its launch; ignition, when the platform is tested and launched; scaling-up, when building a critical mass of participants on all sides of the platform; and maturity, while defending against new entrants and existing competitors. There are different priorities across these life stages. After marketplace has been designed in the pre-launch stage, the ignition stage's key priorities are to create market fit, to spark liquidity, and to raise funds. Then, the platform needs scaling strategy. In the RM, the scale-up priorities are the customer & transaction growth, balanced liquidity, and trust-based customer loyalty. In the ignition and the scale-up stages, five functions are considered.

In 'attract' function, the platform focuses on one side in the ignition stage, for attracting both sides at the same time is not easy. There are strategic methods. One way to overcome the chicken-and-egg problem is the bowling pin strategy and an example is Facebook to hop from a platform at Harvard through like Ivy League universities to global market. Its variant is event strategy, in which the platform chooses a particular event where a critical mass of an identified target community is present. Some platforms ignite by piggybacking on existing networks and an example is Airbnb targeting Craiglist's users looking for listings other than the hotel experience. A VIP strategy attracting 'star' is case for game console platforms signing exclusive partnerships with developers to attract 'must-have' games only available on their platform. In the scale-up stage, these strategies can be retained by using resources form the platform or by leveraging marketing capabilities from participants. There are six user and producer acquisition sources: Producers and users directly acquired by the platform; producers bringing in more users and users bringing in more users; users acquired thanks to producers and producers acquired thanks to users.

In 'match' function, matching quality (a function of matching information from participants) and timeliness (a function of matching results timely to meet participants' needs), should be improved. At ignition, the volume of transactions is small so changes to the matching algorithm criteria are unlikely to have much impact on producers. However, as the platform scales, some of its producers are larger and platform needs to provide enough transparency for the producers to successfully adapt to the new changes and to encourage positive interactions on the platform. For instance, as soon as there are enough participants and interaction on the platform for A/B tests, the matching platform can start to run such matching algorithm experiments.

In 'connect' function, the focus is the maximization of the positive interaction by discouraging negative ones. A good example is eBay's interaction with participants. As eBay scaled the categories with fixed priced, high volume and low margin items, a review of interaction between eBay sellers and buyers revealed new inefficiencies and eBay introduced new features like product listing frequently asked questions (FAQs) and product catalogues to reduce buyers' generic queries.

In 'transact' function, the key focus in the ignition stage is to test the revenue model like freemium (free + premium) model which has been usually tested at launch stage for minimizing friction. Poor matching quality or lack of liquidity are bottlenecks during ignition. For instance, the liquidity is the reasonable expectation of eyeballs form the right demographics for advertisers on Instagram. Defining a minimum liquidity target is useful in this stage. It means, building liquidity and network effects are more important than monetization in the ignition stage. However, in the scale-up stage's focus is to monetize without impacting negative network

effects.

In the last 'optimize' function, several areas should be monitored in ignition stage. They are related to achieving platform fit, creating liquidity, clearing interaction and core transaction bottlenecks, and raising capital which are all linked to previous mentioned four functions. In the scale-up stage, for monitor and adjust the growth trajectory of the platform, performance metrics should be developed. The content of this metrics include previous four functions [7, 8, 9].

3. Research Design

NaverZ completed the marketplace design of Zepeto starting from its previous app, Snow. Therefore, in this paper, platform's functions to attract, match, connect and transact can be examined across the ignition and scale-up stages of metaverse platform operator, Naver Z. As shown in Figure 1, there are key priorities of both stages and platform functions are aligned. The key priorities are creating market fit, sparking liquidity, and raising funds in the ignition stage, raising customer and transaction, balancing liquidity, and giving trust in the scale-up stage. Both stages have their own five platform functions. In the ignition stage, the platform builds liquidity and matching effectiveness, removes friction between participants, and monitors 'North Star' & ignition key performance indicators (KPIs). In the scale-up stage, the platform strengthens liquidity, improves matching and connection effectiveness, scales core transactions, and monitors 'North Star' & scaling KPIs. The last function of the five is to show the other four results in numbers, which is excluded from the research questions. Along Figure 1, the research questions are as follows:

1) How to focus and retain NaverZ's identifiable target communities?
2) How to build and improve NaverZ's matching rule and quality?
3) How to encourage NaverZ's positive interactions at scale?
4) How to deploy NaverZ's monetization among price options?
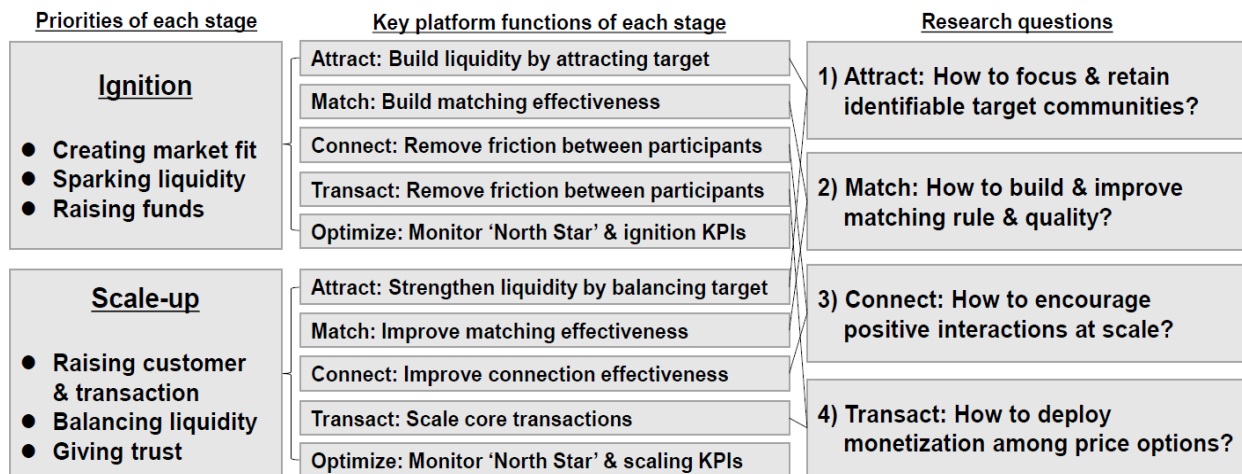

Figure 1. Research Framework & Questions

Before this study, we searched the previous literatures dealing with metaverse platform, Zepeto between 2018 and 2022. For adapting the theoretical logic of the RM, it is difficult to draw a clear line between the rocket life stages of the ignition and the scale-up stage, so the functions of the RM in the two stages are analyzed in one basket. After the pre-launch stage in the name of Snow, new platform named as Zepeto of NaverZ has started to step on the ignition and scale-up stages from 2020. We investigate NaverZ's RM functions on these stages. For this, we searched business activities of NaverZ and Naver, the parent company by searching

financial, market data, company documents and press releases during this period.

4. Results

4.1 Attraction: Identifiable Target Communities

In the ignition stage, NaverZ focused on user side. In terms of the bowling pin or its variant, the event strategy [8], in June 2020, 'Black Pink' fans introduced Black Pink's 3D avatar and various costumes and 3D "World" maps based on the music video of "Kill This Love" on Zepeto [10]. When Zepeto and K-pop idols collaborate, teenagers who are familiar with metaverse and want to follow whatever idols do can easily enter.

Although Zepeto has a social platform function by itself, it has taken the strategy of piggybacking on existing giant SNS platforms [8]. The user generated content (UGC) created by using the tools of Zepeto, can be uploaded to 'my' avatar pages of SNS like Facebook and Instagram and it can be shared with offline or "World" friends of Zepeto [11].

As more users and producers join the platform, the on-boarding process needs to be as smooth as possible for both sides. After focusing on the event and piggybacking, the scale-up stage is to aim for 'balance.' [9] According to a survey of Nielsen Korea in the middle of 2021, seven out of ten users are children and adolescents, and 77% are women by gender. It is a short-term advantage, but a long-term disadvantage. Keeping the platform 'balanced' is critical to retain target communities.

In November 2021, NaverZ established a joint venture company, Zep with game developer, Supercat for developing a metaverse platform and acquired a 40% stake in Zep for KRW400mn. Supercat has specialty in the development of dot games with simple graphics, including "Land of the Wind: Kite" and "Growing a Stone" and experience in operating Nekoland, a game development platform. Zep is a metaverse collaboration service with a dot game style and a web-based service used in the cloud. So, its users can easily invite others with an invitation link Uniform Resource Locator (URL). Unlike Zepeto, Zep attracts users bringing in more users. Zep provides offices with 10, 30, 50, and 100 people as a basic template and users with tools customizing floor, wall, tile effect, object, etc. and supports video conferencing functions like Zoom. Supercat can also develop its games directly on the platform, Zep and sell them directly [12].

For 'balance,' NaverZ started to focus on key identifiable target producers like game and content companies in terms of the VIP strategy. From 2020 to July 2022, invested game developers are Pinocchio [a joint venture (J/V) with Lunosoft], Brave Turtles (American game developer, 5% stake, February 2022), Cinnamon, and Quokka Industries. Especially, Pinocchio, a casual game company, can develop various metaverse games to be applied only to its platform. Furthermore, NaverZ bought 10,000 shares out of 30,000 shares issued by infant startup, Quokka Industries (established in April 2022, KRW5,000 per share) in June 2022 for KRW4bn, because it is expected to specialize in developing "maps" to be used for metaverse platforms [13].

NaverZ also invested in metaverse related content companies like Metaspace Company (Metaverse content, 14.99 stake, March 2022), SSONG Company (Music content, 18.18 stake, March 2022), and LENGED (Metaverse content, 8% stake, March 2022). Metaspace Company has experience in planning content such as Zepeto Museum and Naver Green Factory within NaverZ, and based on this, it produces content linked to global companies such as Samsung, CJ, and MCM. SSONG Company is a production company specializing in character intellectual property (IP) music content [14]. Playlist, a content studio jointly invested by Naver Webtoon and Snow in 2017, invested 4% in LENGED, a metaverse company, and NaverZ acquired 8% of shares in April 2022. As a result, Naver affiliates hold a total of 12% stake in LENGED founded by Zepeto creator, Lenge who established LENGED to foster metaverse creators while fostering avatar Lenge as a global brand [15].

4.2 Match: Matching Rule and Quality

Relevance is a function of matching information from both participants against the right set of criteria. In the ignition stage, users learn the relevant rule and the objective is to make sure the matching works on a small scale [8]. NaverZ's Zepeto has already used AI technology like deep learning, and machine learning in the process of creating avatars that automatically generate 3D avatars when taking pictures. When the picture is uploaded, each part of the face is analyzed using AI technology, and when the appropriate avatar comes out, the style is classified by each part such as hair style, eyes, nose bridge, and lips and converted into 3D [16].

Based on NaverZ and Naver's AI technology, Zepeto's users start to be prosumers. They create high-quality photo and video content using photo and video booths without any special technology or equipment. As of Mar. 2021, more than one bn short-form UGC have been created on Zepeto and its users can also create their own virtual space called "World." As of same time, there are about 15,000 maps, and users can design their own spaces through their imagination. School-themed classroom maps are the most popular, and maps in various fields such as maps made under the partnered IP like Disney and Black Pink, and maps with game elements are used. There is also a map from the real world. For example, the map released by the Korea Tourism Organization in November 2020 reproduces Banpo Bridge's Rainbow Fountain, Namsan N Tower, and food trucks of the Han River Park, and users can cook ramen at convenience stores or cross the Han River in a water taxi [17].

In the scale-up stage, for strengthening liquidity, in the first half of 2022, NaverZ started to invest in more developed AI solution and AI based production companies like Muffle (metaverse AI, 29.9% stake, March 2022), Persona Space (virtual human developer, 5.29 stake, January 2022) and Kinetix SAS (hereafter Kinetix; French AI based 3D motion content production platform, 1.3%, May 2022), and Tripolygon (real time 3D modeling developer, 5.29%, April 2022). Muffle develops AI solutions that streamline content production such as text, voice, video, and animation based on deep learning technology. Kinetix, a Paris-based AI-assisted 3D animation pioneer, announced that it secured US$11mn in seed funding and the round was led by Adam Ghobarah, founder of Top Harvest Capital and former longtime executive at Google and Google Ventures, with participation from multiple virtual worlds like The Sandbox & NaverZ. Kinetix founded in 2020, has created a no-code platform allowing Web3 and content creators to transform any video into 3D animated avatars. By uploading video clips into the platform, Kinetix, everybody can generate fully featured 3D animations to share and integrate into virtual worlds. Its free AI-powered platform makes 3D creation accessible to creators around the world. With Kinetix, everyone can easily produce films, concerts, group dances, and video games for virtual worlds. Its team of 30 passionate deep learning engineers, 3D animation experts, developers, and game scripters are on a mission to humanize the metaverse [18].

Tripolygon's UModeler attracted KRW6.5bn in Series A investment, with NaverZ participating as a strategic investor. UModeler has 17,000 cumulative users in more than 130 countries and plans to launch UModelerX, a next-generation modeling solution modelling more than one mn high-polygon in a real-time 3D rendering environment, in the second half of 2022. Through collaboration with NaverZ, Zepeto creators can easily produce high-quality 3D items and "Worlds" directly from the Unity editor without having to use separate 3D modeling software [19].

In addition, NaverZ's parent company, Naver invested in AI and blockchain based immersive technology startups through its startup training organization, D2SF (D2 Startup Factory) since 2017. Two cases have been added in the second half of 2022 and total fourteen start-ups are expected to complete metaverse ecosystem with NaverZ. In detail, D2SF invested in two start-ups in 2017 (LetinAR, Deepixel), one in 2018, two in 2020 (Plask, Planetarium), seven in 2021 (Z-emotion, Reconlabs, VirtualFlow, Pixelitygames, GaudioLab, Tunib, E.Light), and in August 2022, two (RubuildAI and Modhaus) respectively. They account for 24% of all D2SF

investments [20]. Most of them are related to the metaverse. Naver's metaverse focuses on applying technology collected from D2SF and NaverLabs to existing services such as the platform Zepeto, cafes, and webtoons.

4.3 Connect: Positive Interaction at Scale

Basic question in the ignition stage is to ask how platform participants really interact [8]. One of the reasons for revisiting Zepeto is the function of 'feed,' the creation of a community due to SNS activities. Once a community is created in Zepeto, visits are continuously induced due to the needs of the group to communicate and meet within it. When a person's feed is uploaded, a notification comes and the other person's activities are seen, and proactive interactions like taking pictures with others or meeting them on the map are possible. It is an environment where participants meet in person anywhere in the world and human relationships expand further. Furthermore, if users search for Zepeto on Instagram, they can see a post like a coordinator. How to coordinate on YouTube and how to monetize creators are uploaded as UGC. Users who posted feeds in Zepeto also post feeds on Instagram. When expansion to other SNS channels is very proactive, naturally shared or recommended viral effects are obtained. Zepeto itself also uploads content for viral effects, such as Myers-Briggs type indicator (MBTI) tests. Through these interaction activities, user recommendations and sharing are spreading.

In the scale-up stage, the way of the interaction is to enhance positive network effects [9]. In 2022, NaverZ tries to expand Zepeto service in Southeast Asian markets and invested in Good Gang Labs Pte (February 2022, 2% stake), a metaverse service company in Singapore [21]. NaverZ's localization strategy expanded to the Middle East. Zepeto services of the existing U.S., France, and Saudi Arabia have provided the same metaverse service, but NaverZ plans to make the content specialized only in Saudi Arabia to secure local content reflecting local users' preferences and to collaborate with local companies to launch a marketing campaign. It can accelerate its entry into the Middle East market, which has prioritized the launch of the Arabic version of Zepeto. It has already operated thirteen language services including Korean, English, Chinese, Japanese, Spanish, French, and Indonesian language [22].

4.4 Transact: Monetization among Price Options

Platforms need to enable peer-to-peer (P2P) connection between platform participants after attracting and matching, because this active interaction can drive the next function of the transaction. A freemium model can be at the pre-launch and ignition stage for minimizing friction while the platform is subscale. So, building liquidity and enhancing positive network effects are important priorities before the monetization at the scale-up stage. After getting network effects, some monetization experiments are useful to develop organizational expertise on revenue systems and operations, and to answer monetization questions of investors in follow-up rounds [8].

There are three monetization experiments in Zepeto as of the first half of 2022. Firstly, items can be purchased in Zepeto with the transaction methods, 'Coin' and 'ZEM,' which does not yet lead to high revenues. However, since the scalability of the service is infinite, new value creation focusing on game and entertainment genres can lead to value acquisition by using ZEM and Coin in near future. Secondly, Zepeto is the creator's revenue space. They can produce and sell items at Zepeto Studio, and the sales fee is Zepeto's profit. Finally, the performance of companies collaborating with Zepeto means the generation of advertising revenue of Zepeto. In addition to luxury goods and idol collaborations that appeal directly to gen. Z, retailers such as convenience stores and credit card companies are also collaborating and marketing with Zepeto.

The scaling phase must ensure that transactions occur as smoothly as possible [9]. Therefore, NaverZ invested in WEAR (April 2022, 4.62% stake), originally an AR filter production company and now non-

fungible token (NFT)-based metaverse community development company. With its NFT-based community service platform 'Klayland', WEAR has attracted KRW4bn worth of Series A investment and this investment was led by NaverZ. Snow and Korea Investment Partners participated as joint investors. As of April 2022, Klayland has consisted of about 9,000 individual lands. In this platform, users can use their owned NFT images as avatars to build a new type of community while communicating with other users. In this process, users can directly produce items that can be used in Klayland, and the produced items can be traded with other users through NFT. Users can earn profits through transaction fees and NFT transactions arising from Klayland [23].

NaverZ succeeded in attracting KRW220 bn worth of investment from Softbank and others in 2021, helping to grow Zepeto's scale, established a Hong Kong subsidiary in early 2022, and established the mentioned joint ventures like Pinocchio and Zep. To ensure that Zepeto is ready to generate enough revenues, NaverZ's plan for monetization is focusing not only on NFT, but on blockchain technology. Accordingly, it invested about KRW1.1bn in Haderech, a Singapore blockchain developer [24].

5. Conclusion

Since the growth of metaverse platform of NaverZ has been too fast over the past two years, it is difficult to analyze the ignition and scale-up stage separately. Therefore, the two are combined viewed as scaling strategy. Results of this study are summarized in Table 3. In the 'attract' function, NaverZ's platform strategy shows the event strategy by collaborating with K-pops, the piggybacking strategy by utilizing other SNSs, and VIP strategy by investing in key game developers and content companies. In the 'match' function, NaverZ's matching rules are to let its users generate their own characters and "World" with Zepeto Studio. For strengthening the matching quality, NaverZ's choice is the investment in AI based companies. In the 'connect' function, NaverZ focuses on the maximization of the positive interaction by inducing feed activities in Zepeto & other SNSs and by uploading attractive content for viral effects in the ignition, then tries to expand the scale to other continents like Southeast Asia and Middle East with localization strategy including investment. Lastly, in the 'transact' function, there are three monetization experiments like Coin & ZEM, UGC fee, and advertising revenue in the ignition, then, NaverZ starts to invest in NFT platforms and abroad blockchain companies.

Table 3. Summary of Results

Function in ignition & scale-up	Key results of strategies
1. Attraction:	1) Bowling pin/event strategy: Collaboration with K-pops like 'Black Pink'
Identifiable target communities	2) Piggybacking strategy: Utilizing other SNS like Facebook, Instagram
	3) VIP strategy: Investment in key game developers including two J/Vs
	4) VIP strategy: Investment in metaverse content companies
2. Match:	1) Matching rules: UGC (Character) & "World" with Zepeto Studio
Matching rule & quality	2) Matching quality: NaverZ's investment in AI based companies
3. Connect:	1) Active feed in Zepeto & other SNSs & content upload for viral effects
Positive interaction at scale	2) Localization strategy incl. investment (Southeast Asia & Middle East)
4. Transact:	1) 3 monetization experiments (Coin & ZEM, UGC fee, and ad. revenue)
Monetization with price options	2) Investment in NFT platforms and abroad blockchain companies

The implications of the research results are that the creator economy is already being started and general and entertainment companies' marketing activities have enabled sales to be generated, but they have begun to pursue strategies that are back to the basics in consideration of the competitive environment in metaverse industry ecosystem. Naver and NaverZ's stake investment in one year began to show this. Even if we have a limitation in dealing with the short time periods, it is important to be aware that Korean domestic Internet giant, Naver is trying to build a new global platform ecosystem. This is different from Naver's previous emphasis on the internalization of the domestic market and technology. Accordingly, it is expected that subsequent papers dealing with NaverZ's metaverse platform strategy will be covered throughout its parent company, Naver's business strategy and activities.

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