

Research on Efficient Game Production Methods using Digimon Series IP

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Abstract

Currently, the growth of various platforms is remarkable, both at home and abroad. With the growth of various platforms such as PC, console, and VR as well as mobile, the global gaming industry market size has grown to reach KRW 151 trillion. However, in order to revitalize the domestic game market, which is growing at a slower pace, improve the concentration phenomenon that is concentrated on mobile and PC platforms, and select one of the games using IP that is being discussed as a new breakthrough, and determine what form the game will take. Through this study, we would like to suggest whether multi-platform is appropriate.

The Digimon series generally attracts many fans through animation, and the Digimon story Cyber Sleuth, which utilizes new scenarios to satisfy them and arouse interest at the same time, can be seen as a representative success example

We believe that through this interaction, users can continue to play the main content on their PC, and create synergy by being able to play and enjoy minimal content through mobile anytime, anywhere while doing other things.

Keywords: Animation, Digimon, Games, VR, IP, Platforms

1. INTRODUCTION

Games are now becoming more than just an indispensable hobby in modern society, they are establishing themselves as a sport and a culture. This is happening both at home and abroad. According to Newzoo, a game and e-sports analysis company, the size of the global gaming market has grown to \$134.9 billion, a 10% increase from 2017, or about KRW 151 trillion. Among them, mobile It was announced that this amounted to 47% of the total market size [1]. In addition, console and PC platforms followed suit, growing by 15.2% and 3.2%, respectively, and the game market, not only in Korea but also around the world, began to grow on various platforms.

In the early 2000s, PC-based games of various genres were released, solidifying the foundation of the industry, and as the years passed, a new platform called mobile grew by 14.4% in 2017, making another leap forward and increasing the size of the industry.

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As the size of the mobile game market has gradually decreased since 2018, the game market is in a situation where it is necessary to establish a new alternative that can replace or coexist with the mobile market, but conditions are not suitable to develop a new market [2]. The domestic game industry is mostly focused on online games and mobile games, and the top-selling game genres currently dominating the mobile game market are mostly limited to RPGs. At the same time, sales are concentrated on top-tier games and MAU (Monthly Active A phenomenon such as a decrease in users is occurring [3].

As genres are repeated and sales are focused on only a few games, the growth of the market is slowing down, and there is a high possibility that various platforms will not be able to keep up with the growing global game market and be left behind.

In order to find a breakthrough in the gaming industry's lack of diversity and the trend of focusing on one genre and releasing similar games one after another, many game companies have developed games based on IP (intellectual property) such as webtoons or animations. The release of is currently being proposed as a breakthrough in the domestic game market [4]. The reason why IP has become a new breakthrough in the gaming industry is because of the advantage of being able to absorb fans as users without much promotion through IP that already has a fan base, such as webtoons or animations, or, conversely, by using IP, the game can be expanded. If it is not properly reproduced or operated poorly, there is a risk that the game may fail, so caution must be taken in its use. However, the gaming industry, which has found a new way forward, is concentrating on securing IP [5].

However, the current market form, which is simply focused on the mobile market, cannot be considered a healthy market form. The animation business, which can be seen as part of the same cultural business as the game market, also has a phenomenon of concentration on one genre, and only the same genre of animation is produced over and over again, and eventually the market itself becomes entrenched and degenerates into excessive competition as only one genre remains. Considering the current trend of the domestic game market, there is ample room for a phenomenon similar to the domestic animation industry to occur [6].

To overcome this situation, multi-platforms that use two or more platforms, rather than simply being limited to one platform, are being mentioned as a new way out, and the domestic game market needs to actively utilize this [7]. Therefore, through this study, we would like to analyze each multi-platform in order to appropriately utilize the IP and multi-platform, which are currently being mentioned as a breakthrough in the domestic game market, and propose a platform suitable for the Digimon series.

2. EXPERIMENTS

2.1 AI blockchain Technology

2.1 The concept of platform

The concept of platform in games can be seen as referring to various types of devices for enjoying games, and when two or more platforms are used, it is called multi-platform [8]. There are many different platforms around the world, but based on the share of each platform in the domestic game market announced by the Korea Creative Content Agency, if only those with a market share of 15% or more are selected, mobile (35.6%), PC (20.5%), and console (24.6%) and arcade games (19.4%).

2.2 Concept of IP

IP (Intellectual Property) refers to property that is knowledge, information, technology, expression of thought or emotion, indication of business or product, species of organism or genetic resource, or other intangible things created or discovered through human creative activities or experience. It refers to what value can be realized [9]. And the rights that protect such intellectual property by laws, treaties, etc. are called 'intellectual property rights' [10].

Among the various types of IP, this proposal will focus on researching animation IP, and the subject is the "Digimon series," which has been very popular since the 1990s and has established itself as a representative

animation IP in Japan.

2.3 Digimon Series

Digimon is an abbreviation for Digital Monster and has a worldview in which monsters composed of 0 and 1 are active in the digital world and the real world. The first origin was planned and developed by BANDAI, a large Japanese company, in 1996, and was released under the name 'Digimon' on June 26, 1997 as a successor to the Tamagotchi series that was popular in Japan at the time.

Children responded enthusiastically to a game device that incorporated the concept of battle into the popular toy 'Tamagotchi' at the time, leading to a boom in the animation, video game, card game, and character industries. At one time, similar genres remained popular to this day. It is a series that is the only rival to keep in check the existing IP, Pokémon [11].

The reason why the full-fledged Digimon series was able to show strength and establish itself as a representative animation IP in Japan was when "Digimon Adventure," the first animation series among the Digimon series, began airing in 1999. In Korea, it achieved the highest viewership rating of 28.7% and generated a total of 160 yen (KRW 150 billion) in revenue from related character products, contributing to "Digimon" being recognized as a representative Japanese animation IP.

3. RESULTS

3.1 Console Analysis

Until now, consoles were good for playing games, but they were not very popular in Korea due to the high price, the burden of purchasing them, and the fact that it required some investment of time. However, thanks to the activation of game broadcasts through YouTube and the succession of games receiving great response from users around the world being released through console platforms, the console share in the domestic game market has been growing by more than 100% over the past few years. [12]. This is surprising growth considering that online games and mobile games were the main platforms in the domestic game market.

Consoles can be seen as a platform more optimized for games. There are separate devices to make certain games more realistic and fun to play, and for *Ace Combat 7 Skies Unknown*, where you control a fighter plane to fight, an example is a game-specific joystick called T-Flight Hotas 4. As hardware optimized for games is mainly used, games that were not available on PC or mobile devices are released through motion recognition, which is generally difficult to provide on PC or mobile devices, or compatibility with devices suitable for specific games.

However, hardware devices optimized for games have the advantage of being able to play released games without any upgrades for 2 to 3 years, or up to 5 years or more, before the next upgraded device is released after purchase. However, the advantage is actually a disadvantage. It can also happen. This is not to say that upgrading is not necessary, but that it is close to impossible, so it is highly dependent on hardware specifications, and as a result, tasks such as simplifying or lowering the quality of the game are done to optimize the game's volume or content to suit the hardware specifications. This is a factor that reduces the qualitative elements of the game and has been mentioned as a chronic problem of console platforms.

To improve this environment, some console platform games are also released on PC and mobile. A representative example is *Monster Hunter World*, which was released in January 2018, and then 7 months later in August 2018, the PC version was released through Steam. Not only *Monster Hunter*, but also various games such as *FIFA* and *Call of Duty* are released through multi-platforms such as consoles and PCs, and the reason for this is that games on PC and console platforms are similar.

A console can be seen as a device that has been improved from a PC to a more game-friendly and focused form, but in reality, the only difference is the controller for playing games, and except for some games, it remains a PC without any UI or system changes. Users can enjoy games they used to play on consoles on PC without feeling any significant difference even when ported to .

3.2 PC Analysis

The PC platform held the largest share in the domestic game market until mobile began to gain strength. In fact, as the domestic computer penetration rate exceeds 76%, it can be seen as the platform with the largest number of game users in Korea [13]. Therefore, the domestic game market has continuously attempted to launch online games through the PC platform, but it is also a platform where concentration is occurring as most are limited to RPGs or FPS.

While consoles are a platform optimized for games, PCs are specialized for games based on a network environment where periodic updates and interaction between users occur. In addition, game distribution companies such as Steam and Epic Store have appeared, and some console games have been ported to PC, making it a platform where you can enjoy the largest variety of games in the world. However, continual hardware upgrades are required to play a variety of games, and since an OS such as Windows is running, the hardware cannot devote resources purely to games, which can be highlighted as a disadvantage.

However, on the other hand, as specifications increase through continuous upgrades, it has the advantage of being able to develop games without being restricted by hardware specifications due to limitations of hardware such as consoles. As it has high versatility, is easy to upgrade, and is not restricted by specifications, a variety of games in various genres are being released on the PC platform. However, because games are released in such an unrestricted environment, and because the game system and UI are optimized for keyboard and mouse, which are common input devices, there is also the point that games released through the PC platform are difficult to port or release to other platforms.

3.2 Mobile Analytics

The mobile platform is a platform that has recently begun to gain strength with the development of smartphones. It is a platform that emerged as an emerging powerhouse in the domestic game market but is slowly declining in growth. Although growth is decreasing, it accounts for more than 40% of sales in the global game market, and in Korea, the penetration rate of smartphones is gradually increasing, with 95% of people using them. While PC has many users who play games, mobile is an attractive platform with a large number of potential users who can or might play games.

Mobile platforms have the advantage of being able to access and play games anytime, anywhere, while PCs and consoles have difficulty playing them anytime, anywhere due to the volume or size of the device.

As the portability and penetration rate are high, the game can be played anytime and anywhere, and has the advantage of being easy to access for users. However, it also has the characteristic that the screen size and specifications of devices corresponding to the mobile platform are not very high, especially in the case of the screen, compared to the screen size of the monitor or TV that users generally encounter when playing games on a PC or console, smartphones and tablets use very small screens, which sometimes highlights the shortcomings. In order to compensate for this, the UI and operation method have completely different characteristics from PC or console.

However, no matter how much the UI and operation method are developed to complement them, game development is limited due to hardware limitations like consoles, and the fact that it is not easy to play for long periods of time is cited as a major limitation of the mobile platform [15].

However, the advantage of high accessibility to users that covers all of these shortcomings and limitations has helped it occupy nearly half of the sales of the game market not only in Korea but also around the world. And the advantage of being able to play games anytime, anywhere also has an impact on multi-platforms, and attempts are continuously being made to inherit some of the content and features of the game so that different platforms and games can interact. Representative examples include Pokémon Let's Go and Pokémon Go. Pokémon Let's Go, released in 2018, inherited the system and features of Pokémon Go, which was first released on mobile platforms in 2017, and was released on console platforms. Taking advantage of the hardware's ability to handle more content and systems than mobile devices, Pokémon Let's Go, a console platform, provides more content and fun to users, while Pokémon Go has limited content to enjoy. It can be played anytime, anywhere, and Pokémon acquired through Pokémon Go can be transferred to Pokémon Let's Go through a Bluetooth connection for interaction. This can be seen as a form of attracting users through mobile and providing more developed, improved, and fun through console.

4. Conclusion

Through this study, we looked into the pros and cons of each platform game to be used as a new outlet in the domestic game market. Through the analysis, it was found that each platform has connections with other platforms and has its own characteristics and strengths and weaknesses.

Here, in order to utilize the IP called the Digimon series to activate the influx of users and develop a game suitable for the Digimon series, a platform suitable for the Digimon series must be selected. Of course, there are games that have already been successfully released using the Digimon series on the platforms analyzed. The Digimon series generally attracts many fans through animation, and the Digimon story Cyber Sleuth, which utilizes new scenarios to satisfy them and arouse interest at the same time, can be seen as a representative success example [16]. We think it is possible to release it on console platforms like Digimon Story Cybersleuth, but it is necessary to consider that the game needs to be played on two or three or more platforms rather than being limited to just one platform.

Table 1. Pros and cons of each platform

Platform	characteristic	Explanation
Console	Advantages	Hardware specialized for gaming, Many games that can only be enjoyed on consoles through a variety of dedicated gaming devices
	disadvantage	Development is limited due to limitations in hardware specifications
PC	Advantages	multiple users, Specializing in online games, Freedom of development due to no limitations in hardware specifications
	disadvantage	continuous upgrade requirements, Not easy to port to other platforms
Mobile	Advantages	Highly portable so you can play games anywhere, High user accessibility
	disadvantage	Development is limited due to limitations in hardware and devices. Not suitable for long-term play

Therefore, when I heard that the Digimon series is still continuing and new Digimon are coming out, and that portable game consoles dedicated to the Digimon series, such as Tamagotchi, are also continuously being released and updated, I decided to choose a PC platform that is easy for continuous management and updates and a more active one. The final proposal is to build a multi-platform combining mobile platforms that can activate user influx.

You can enjoy the main content of the Digimon series through the PC platform, and content such as hatching, training, and managing Digimon can be played on both PC and mobile, allowing for interactions similar to Pokémon Let's Go and Pokémon Go. You can. We believe that through this interaction, users can continue to play the main content on their PC, and create synergy by being able to play and enjoy minimal content through mobile anytime, anywhere while doing other things.

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