

Research on Investment Status and Revitalization Measures in Gaming Industry

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Abstract

The domestic gaming industry is a globally competitive field, but growth has recently slowed and competition in overseas markets is intensifying. Accordingly, it is important to analyze the investment status of the domestic gaming industry and study ways to revitalize it. The game industry is a labor-intensive, high-value-added industry that occupies an important position in the domestic content industry. However, the number of businesses and employees has been steadily decreasing for several years, and polarization within the industry is worsening. This is the effect of a decrease in investment in an industrial structure in which labor costs are the majority of production costs. Accordingly, we analyze the current status of the domestic gaming industry, and also analyze the investment status of the gaming industry and the investment structure of domestic venture capital to study the scale and required period of investment and investment projects needed to promote the industry. In this study, “the investment status of the domestic gaming industry and proposed revitalization measures. We study cooperation between the government, businesses, and academia to solve the problem of declining investment and slowing growth.”

We expect to strengthen competitiveness and continue to grow as we pursue revitalization plans.

Keywords: Investment Status, Revitalization Measures, Gaming Industry, Analyze, Business

1. INTRODUCTION

As we all know, in the domestic industrial environment, store resources are scarce and human resources are abundant, so labor-intensive industries are advantageous.[1] However, light industry, which represents labor-intensive industries, is a low-value-added industry that is not suitable for a situation where national income already exceeds \$30,000. The content industry represents a labor-intensive, high-value-added industry.[2] Due to its nature, the content industry does not require large-scale land or equipment and is a human-centered industry. Among them, the gaming industry occupies a large portion of the content industry. Nevertheless, the number of companies in the gaming industry is decreasing and the number of employees is also decreasing. Additionally, investment in the gaming industry is decreasing. Due to the labor-intensive nature of the industry, worker labor costs account for an important part of production costs, so a decrease in investment inevitably leads to a decrease in the number of employed workers.

Therefore, if the investment status of the gaming industry is examined and research is conducted to promote investment, it is expected to help promote the gaming industry.

2. EXPERIMENTS

2.1 This study proceeds through four stages.

In the first stage, the current situation is analyzed by examining the indicators of the gaming industry in recent years. The subjects of the investigation include the number of companies in the gaming industry, the number of employees, and the size of the industry's sales, and the relative differences in the gaming industry compared to other content industries are found.

The second stage investigates and analyzes the investment status of the gaming industry in recent years. Analyze the current situation by finding the relative differences in investment in the gaming industry compared to investment in other industries.

The third step is to check the announcement of investment projects in the content sector over the past few years by the Korea Fund of Funds, which has invested a significant portion of domestic venture investment resources on a policy basis, to check the status of which fields the policy resources have been mainly allocated to, and determine the proportion of the game industry among them. Analyze and predict future investment flows.

Step 4 calculates the financial resources and period needed to improve the investment environment and presents a revitalization plan.

Through the results obtained in this study, we propose a revitalization plan to promote the gaming industry and promote these results through various channels to contribute to revitalizing investment in the gaming industry.

3. RESULTS

3.1. Industry status analysis of the gaming industry

Table 1. Number of businesses by content industry[3]

division	year 2013	year 2014	year 2015	year 2016
Publishing	26,603	25,705	25,505	25,452
comic book	8,520	8,274	8,145	7,726
music	36,863	36,535	36,770	37,501
game	15,078	14,440	13,844	12,363
movie	1,427	1,285	1,111	1,398
animated movie	342	350	376	447
broadcast	928	910	954	975
advertisement	6,309	5,688	5,841	7,229
character	1,994	2,018	2,069	2,213
knowledge information	9,046	8,651	8,671	8,719
Content Solutions	1,452	1,586	1,728	1,798
Sum	108,562	105,442	105,014	105,803

The table above shows the number of businesses in the content industry confirmed by data released by Statistics Korea. Statistics for 2017 and 2018 are difficult to confirm because the official statistics from the National Statistical Office have not yet been announced, but unlike other industries that do not have repeated fluctuations or dramatic changes, the gaming industry has continued to decline steadily by around 5% every year. Assuming this trend continues, the current number of businesses is expected to be around 11,000.

Table 2. Status of number of employees by content industry [4]

division	year 2013	year 2014	year 2015	year 2016
Publishing	193,613	191,033	190,277	185,001
comic book	10,077	10,066	10,003	10,127
music	77,456	77,637	77,490	78,393
game	91,893	87,281	80,388	73,993
movie	30,238	29,646	30,100	28,974
animated movie	4,502	4,505	4,728	5,142
broadcast	41,522	41,397	42,378	43,662
advertisement	49,114	46,918	52,971	65,072
character	27,701	29,039	30,128	33,323
knowledge information	71,591	75,142	77,809	80,396
Content Solutions	21,731	23,795	25,656	27,374
Sum	619,438	616,459	621,928	631,457

The table above also shows the number of employees in the content industry as confirmed by data released by the National Statistical Office. It is also difficult to confirm the statistics for 2017 and 2018 as the official statistics from the National Statistical Office have not yet been announced, but unlike other industries that have experienced repeated fluctuations or continued increases, the gaming industry has continued to decline steadily at around 8% every year. Assuming that this trend continues, it is expected that approximately 64,000 people are currently working in the gaming industry.

Table 3. Sales size by content industry [5]

division	year 2014	year 2015	year 2016	year 2017	year 2018
Publishing	20.6	20.5	20.8	20.8	20.7
comic book	0.9	0.9	1.0	1.0	1.1
music	4.6	5.0	5.3	5.7	6.2
game	10.0	10.7	10.9	12.2	13.0
movie	4.6	5.1	5.3	5.5	5.8
animated movie	0.6	0.6	0.7	0.7	0.7
broadcast	15.8	16.5	17.3	18.0	18.8
advertisement	13.7	14.4	15.2	15.6	16.1
character	9.1	10.1	11.1	11.6	12.7
knowledge	11.3	12.3	13.5	14.7	16.2

information					
Content Solutions	3.9	4.3	4.6	4.8	5.1
SUM	94.9	100.5	105.5	110.5	116.3

The table above shows the sales volume by content industry based on data published by the Korea Content Agency in 2019. Even as the number of businesses and employees decreases, sales in the gaming industry are showing stable growth of around 7%. It is estimated to have reached 13 trillion won in 2018, and continued growth is expected in the future.

If we analyze the data in relation to [Table 1] and [Table 2] above, we get the result that the game industry's sales have continued to grow despite the number of businesses and employees continuously decreasing in recent years.

Table 4. Sales size by content industry [6]

Company Name	year 2015	year 2016	year 2017	year 2018
Nexon	19,026	18,312	23,492	25,372
Netmarble	10,729	15,000	24,247	20,212
NCSOFT	8,383	9,835	17,587	17,151
Com2uS	4,335	5,130	5,079	4,817
Pearl Abyss	336	927	523	4,047

The fact that sales were able to increase despite the decrease in the number of businesses and employees can be seen by looking at the sales trends of major domestic game companies above. The sales of these companies representing the domestic gaming industry have continued to grow, with the total sales of the five companies exceeding approximately 7 trillion won. In addition, it is difficult to confirm accurate sales data for unlisted companies, but considering companies with sales in the thousands such as 'Smile Gate' and 'Blue Hole', the sales of the top 10 companies are expected to well exceed 8 trillion won. This amount is more than half of the total sales of the domestic gaming industry. Considering that the total sales of the above five companies was about 4 trillion won just four years ago, this can be said to be an incredibly rapid growth. Additionally, considering that the overall sales growth of the gaming industry over the same period was less than 3 trillion won, it can be assessed that the growth of the gaming industry was driven by the growth of these top companies. What can also be confirmed through these data is that the domestic game industry is growing centered on the sales of a few large companies, small and medium-sized production companies are continuously decreasing, and the number of employees is also continuously decreasing. This shows the decline of mid-sized companies, which can be said to be the foundation of the industry, and shows that the industrial base is weakening as the rich get richer and the poor get richer in the domestic game industry.

3.2. Analysis of investment status in the gaming industry

Table 5. Sales size by content industry [7][8]

	year 2014	year 2015	year 2016	year 2017	year 2018
ICT manufacturing	1,951	1,463	959	1,566	1,489
ICT service	1,913	4,019	4,062	5,159	7,468
Electrical/Mechanical/E quipment	1,560	1,620	2,125	2,407	2,990
Chemicals/Materials	827	1,486	1,502	1,270	1,351
Bio/Medical	2,928	3,170	4,686	3,788	8,417
Video/Performance/Alb um game	2,790	2,706	2,678	2,874	3,321
Distribution/Service	2,046	3,043	2,494	4,187	5,726
etc	616	1,668	1,570	1,283	2,077
Sum	16,393	20,858	21,503	23,803	34,249

Table 5. Sales size by content industry [7][8]

The table above is data released by the Venture Investment Information Center of the Korea Venture Capital Association and shows the amount of new investments made by domestic venture capital companies by industry. As can be seen in the table, investment in most industries has steadily increased in recent years, and in particular increased significantly in 2018, with the total investment amount increasing by nearly 50%. This is interpreted as the impact of the investment project for large-scale venture investment funds implemented as one of the government's investment stimulation measures starting in the second half of 2017. In contrast, investment in the gaming industry has shown a continuous decline. The slight increase in 2018 is due to the expanded supply of investment resources mentioned above, and compared to the increase seen in other industrial fields, the relative decline should be seen as continuing.

In addition, looking at the data published early this year, usually close to 10 billion won is invested per month, and unlike in the past when the cumulative investment in the gaming sector was around 20 billion won as of February, this year, the accumulated investment in the gaming sector as of February was around 9 billion won. It is expected that investment in the gaming sector will decrease again in 2019. Therefore, compared to the early 2010s when game investment was active, game investment can be said to have decreased by approximately 40 to 50 billion won. This shows a decline of more than 20%, showing that investment in the gaming industry has significantly decreased, and shows that this downward trend will continue for some time.

4. DISCUSSION

4.1. Study on ways to revitalize investment in the gaming industry

The above charts summarize the announcement of the fund investment project of the Korea Fund of Funds, which has been playing a role in revitalizing investment by supplying policy resources to domestic venture capital for six years from 2013 to 2018. The first important thing to note is that investment in the gaming

industry, which had not been made since 2013, was announced for the first time in five years in 2018. Compared to the fact that there were dozens of investment projects in various video or image-based content fields such as the film industry, convergence content, CG/VFX, and VR/AR fields during the same period, it can be seen that investment in the game industry was neglected. There is. The next point to note is that most content funds have an average investment period of 3 to 4 years and an average management period of 6 to 7 years, and usually stipulate a management fee of 2.0 to 2.5%. This shows that when the total amount of the fund formed is 100%, an investment level of 85% is made, and an investment level of 20-25% is executed per year.

It was said that the gaming industry is a high-value, labor-intensive industry in a domestic environment with a human resources-centered industrial environment. The gaming industry has been experiencing a steady decline in the number of businesses and employees for several years. In addition, domestic venture capital investment in the gaming industry also decreased by 40 to 50 billion won during the period. Due to the nature of game companies, only ongoing costs are incurred for game development until the game is released, and sales begin to occur after development is completed. These costs are mostly comprised of employment costs in the form of research and development costs.[16] In this environment, if investment decreases, the company will not be able to cover employment costs during the development period, and if the company's employment capacity decreases, the number of employees will decrease and the number of businesses will inevitably decrease.

Therefore, in order to maintain the previous level of environment, investment must be increased by 40 to 50 billion won every year from the current level. However, looking at the announcement of Korea Fund of Funds investment projects from [Table 7] to [Table 12], almost no specialized investment resources have been prepared for the gaming industry over the past few years. A typical venture investment fund has an investment period of about 3 to 4 years. The investment period of 3 to 4 years means that even if policy resources are provided, they are distributed to the market over 3 to 4 years. This means that 25-30% of policy resources are distributed and executed over 3-4 years. In order to provide additional investment resources of 40 to 50 billion won each year, additional investment resources for the gaming industry, currently worth 150 to 200 billion won, must be prepared to induce an increase in investment of 40 to 50 billion won annually over 3 to 4 years. shows that Therefore, in order to induce an increase in investment of 40 to 50 billion won every year, additional financial resources of about 200 billion are needed to revitalize investment in the game industry, and for this, an increase in investment projects is necessary.

5. CONCLUSION

So far, we have analyzed the current status of the gaming industry and the investment environment. Summarizing the facts analyzed so far, the gaming industry is experiencing a continuous decline in businesses and employees, and the phenomenon of the rich getting richer and the poor poorer within the industry is deepening. This is coupled with a decrease in investment in the gaming industry, and during the same period, investment in the gaming industry decreased by approximately 40 to 50 billion won per year. Additionally, the gaming industry's base is rapidly shrinking. As can be seen in [Tables 1, 2, and 3], the domestic film industry is less than half of the game industry in terms of number of employees and sales volume. Nevertheless, as shown in [Table 5], thanks to continued policy support and securing investment resources, new investment is occurring at twice the level of the gaming industry. In order to strengthen the middle part of the industrial structure and create a new growth engine by nurturing mid-sized companies, it is necessary to induce investment in the game industry at the previous level. To this end, additional financial resources for game investment worth 200 billion won are needed, and investment projects appropriate for this are needed. This must be done.

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