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아케이드 게임비즈니스의 활성화를 통한 한국 게임산업의 글로벌 경쟁력 증진 방안에 관한 연구

A Study on the Promotion of Global Competitiveness of Korean Game Industry through Activation of Arcade Game business

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요 약 아케이드 게임은 2000년대 초기까지는 국내 게임시장의 대부분을 점유한 영향력 있고 수익성이 높은 게임 산업이었다. 그러나 2006년 국내 사행성 게임의 승률조작의 문제점과 심각한 중독성으로 인하여 대대적인 규제가 이루어졌다. 때문에 건전한 아케이드 게임까지 비즈니스에 타격을 입게 되었으며 이러한 영향으로 국내 아케이드 게임은 현재까지도 재기가 불가능한 상황이 되었다. 본 연구를 통하여 아케이드 게임의 고찰과 함께 국내 아케이드게임 산업의 현황을 분석하며 해외 아케이드 게임 시장의 성공사례를 참고하여 한국 아케이드 게임 산업의 재기 가능성과 세계 경쟁력을 향상 시킬 수 있는 방향성으로, 인식전환과 기능성게임을 도입하는 대안 제시를 하여, 국내 아케이드 게임 산업의 발전과 함께 한국의 게임 산업에 다양성과 유연성을 기반으로 하는 신규 비즈니스의 창출을 유도한다.

Abstract Arcade game up until early 2000 had been highly influential and profitable industry that occupied most of the market share for the Korean domestic game industry. However, extensive and yet tightened restrictions were imposed to the industry in 2006 due to the problems of speculative games such as winning rate manipulation, serious addictiveness, and etc. This resulted in damaging healthy arcade game business and eventually caused it seemingly impossible to comeback up until now. This study is to address the current arcade game industry in Korea along with the best practices in other countries to come up with propositions for the comeback of domestic arcade game industry and improvement of competitiveness. Ultimately it is to develop diversification and flexibility and to induce new business opportunities in the domestic arcade game industry by proposing the ways to convert the bad perception and introduction of functional games.

Key Words : Arcade Game, Gambling, Game Business, Functional Game

I. Introduction

Arcade game is commonly called games, in which a game console as H/W and game program as S/W are combined, can be easily found in any game centers.

It was introduced to Korea in 1900s and had been flourished until early 2000s.

In 2005, the representative speculative arcade game called "Ocean story" came out. It was developed based upon Pachinco, the renowned speculative gambling

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machines as a motive. This game had become popular due to its simple control and monetization manner from game money to real money creating many addicts and problems including winning rate manipulation.

Because of the foregoing, the government started to crack down speculative games extensively in 2006, and enacted regulations on games with vague guidelines affecting healthy arcade games as well. Thereafter the arcade game industry encountered dramatic recession while the industry currently occupies the lowest market share in domestic game industry with barely no improvement.

II. History and Analysis on Trend of Arcade Games

1. Development Status of Arcade Games

Although the arcade game accounts for the lowest market share in domestic game industry, it was the majority one in the past.

The very first arcade game had started with mechanical type in the 18th century. "Table soccer", in which it composed of woods, sawtooth, and metal components, is the representative mechanical game and one of the most successful examples. Then, "Pinball" and "Pachinco" came out later, where winning or losing is not dependant on one's skill but luck creating a problem of speculation.

In 1930s, electric mechanical games, in which electric devices were added to mechanical game machine, were developed. In this game devices, one's game score, start of game, special effects and etc were displayed in automatic manner. Then, new games with new type of controller including "Shooting game" and "Mole game" came out and became popular.

Video games came out next where a monitor was added to conventional game devices. The very first video arcade game was "Computer space" using a stick and button. It has the most similar framework of nowadays arcade game system. Thereafter, "Pong" had

made a great success in 1972 leading the arcade game gradually into industrialization. Then the famous games including "Galaga", "Pac-man", "Tetris" and etc came out and became popular. For quite a long time, the arcade game had accounted for overwhelming portion of the domestic game industry.

2. Corelation of Speculative Games and Arcade Games

Speculative games are the term, in which winning or losing is not dependant on one's skill rather on one's luck, creating mentally strong addictiveness.

The regulations regarding to this speculative acts can be viewed in 3 different manners. Firstly, criminal law shall be applied to the part of speculative acts including gambling and illegal lottery issuances whereas some may be subject to be legalized for permission base. Secondly, all speculative acts shall be banned and allowed only by strict permission system. Lastly, all the speculative acts shall be liberalized, and the ones that have negative social impact shall be separately regulated^{[5]-[8]}.

It is expected that over all liberalization may cause great negative impact from the social and economic aspects. It is highly probable that the secondary crimes together with serious physical and mental problems of players may occur since the game is too addictive.

However, a total ban is also not the best way to solve the problems while it is perceived to be the best way that in a certain boundary pursues both restrictions and improvement at the same time.

In 2010, the arcade game market slightly gained its share compared to the previous year. It was because arcade game makers had started to develop and service cross-platform games deviating from the conventional arcade platform^{[9]-[12]}.

Recently fast-paced 3D or functional games have been adopted to arcade games. Nonetheless, the reason why the arcade game occupies only small portion of the market is mainly that the numbers of game center have been decreased. Being said, it is because a virtuous

circle is not properly working where game is developed, distributed and played by players^{[13]-[14]}.

Continuation of this circumstances has led insufficient fund back-up, and lack of information resulting in having trouble in export as well. However, the most important reason for this recession is the vague regulations on speculative games.

In the past, the arcade game had gained its popularity and grown with high growth rate. The gift card system had been adopted to enhance the game industry's development from 2002. Any new game center could conduct business with voluntary registration and without any legit procedures from 2003^{[15]-[17]}.

This series of regulation became the ground for increasing adult game center and for illegal game centers to be dramatically increased in a fast rate. In 2006, the number of adult game centers had increased explosively and caused "Ocean story" controversy leading to imposition of strong regulations on speculative games. Together with controversy on the speculation, this event resulted in turning public perception on the arcade games into very negative.

3. Analysis on Current Status of Korea's Arcade Games

After the "Ocean story" incident in 2006, the public perception towards the arcade games has been very negative and unhealthy rather than it is a resting place for culture experience or escaping from stress. Due to the foregoing, the arcade game market has been regressed in a great degree.

In projection for arcade game business outlook, 64.8% predicts negative outlook for the industry. 45% relates to confusing relevant policies and regulations, and 33.3% for decreasing in consumers' interest in playing arcade games due to the changes in customer's taste.

There have been many growing opinions insisting that the healthy arcade games are in need of support for diversification and export along with development

of domestic game industry through government budget support and improvement of the relevant system on the arcade game industry.

According to the statistics of the Game White Paper in 2011, The arcade game and game center s accounted for the largest portion in the game market in 2006, but started to dramatically decrease from 2007 whereas the online game industry took its place and accounted for 84% of the entire game market^[4].

Based on this analysis, Table 1 shows that arcade games are recorded the biggest negative growth rate in 2010 and from 2012 to 2014.

Otherwise, Online and mobile games are recorded the biggest positive growth rate from 2011 to 2014.

표 1. 세계 게임 시장 판매량 및 성장률

Table 1. Sales and Growth for World game market

Division		2009	2010	2011	2012	2013	2014	11-14 AVG
Video	Sales	49,893	48,005	48,381	47,160	48,101	48,081	-0.2%
	Growth		-3.8%	0.8%	-2.5%	2.0%	0.0%	
Arcade	Sales	28,057	25,243	25,966	22,999	21,684	20,902	-7.0%
	Growth		-10%	2.9%	-11.4%	-5.7%	-3.6%	
Online	Sales	12,528	16,330	20,826	24,516	28,480	32,280	15.7%
	Growth		30.3%	27.5%	17.7	16.2%	13.3%	
Mobile	Sales	7,328	8,581	9,806	11,053	12,425	13,871	12.3%
	Growth		17.1%	14.3%	12.7%	12.4%	11.6%	
PC	Sales	3,447	3,427	3,135	3,041	2,973	2,921	-2.3%
	Growth		-0.6%	-8.5%	-3.0%	-2.2%	-1.7%	
Total	Sales	101,253	101,585	108,113	108,768	113,663	118,057	3.0%
	Growth		0.3%	6.4%	0.6%	4.5%	3.9%	

Online games and mobile games have gained its M/S every year whereas arcade games have relatively lost its ground. It is believed that extensive scale promotion is needed for arcade games, which have continued its strong presence in other counties, to regain its domestic business opportunities and diversification, and to change consumers perspective.

III. Analysis on Overseas Game Industry and Revitalization Measure for Domestic Arcade Games

1. Current Status of Overseas Arcade Games

Currently "video games" accounted for the biggest

pie in M/S for worldwide game platform followed by “arcade games”. However, the market share is expected to display dramatic changes in coming years due to “mobile games” geared up with fast growing rate every year along with increasing numbers of smart phones, and “online games”, which has the fastest growing rate.

One of the important points to be addressed in the Game White Paper in 2011 is that the world arcade game market is the second largest in the entire game market.

Table 2 shows that arcade game is particularly overwhelming in japan. The arcade game ranked the second in Europe and the United States

표 2. 세계 게임 시장 지역별 점유율 (2010)
Table 2. Regional Share of World Game Market (2010)

(Unit \$1,000,000)							
Area	Country	Online	Video	Arcad	Mobile	PC	Total
North America		2,179	11,772	3,591	1,274	625	19,441
	USA	1,793	10,705	3,180	1,169	557	17,404
	Canada	386	1,067	411	55	92	2,017
Europe		2,525	12,628	9,651	2,235	2,129	29,168
	England	558	3,005	2,114	445	298	6,420
	German	223	1,942	1,506	275	568	4,515
	France	379	2,704	1,847	258	387	5,576
	Italy	236	1,057	750	183	60	2,286
	Spain	175	998	764	358	76	2,372
Asia		11,124	8,756	9,765	4,669	185	34,499
	Japan	1,108	5,888	7,009	1,076	129	15,210
	China	4,839	160	187	1,021	5	6,212
	Korea	4,123	369	128	274	10	4,905
	Etc.	1,054	2,338	2,441	2,298	40	8,172
South America		85	632	474	391	129	1,711
World		15,913	33,788	23,481	8,569	3,068	84,818

In the research, korea has shown strong growth in online games whereas the M/S for domestic arcade games was the lowest. It is believed that the regulations on game industry have played a role as development obstacle resulting in low business feasibility and decrease in numbers of game centers.

2. Trend in Overseas Arcade Game Business

Nowadays game centers have broken from the conventional image that “it is simply a place for playing games”, and turned their images into “family entertainment center(FEC hereinafter)”, which is healthy and family-oriented comprehensive culture

space, leading the trend and promising outlook for the overall arcade game business whose M/S has been gradually contracted.

Arcade games in Asia as opposed to that in North and South America accounts for very low market share. Especially for Japanese arcade game market, it’s market size has gradually been reduced but recently new growth opportunities has been raised by adopting network system to arcade games. Connecting games in many different game centers by network provokes real time matches and competition among players by letting them identify their play scores, and enables communication among them attracting game users’ interests. It is an example of improvement that current technology trend is adopted to the independent play manner of conventional arcade games. Also the industry has taken lead to continuously change for creating fresh impact to game users by continuous program updates.

In China, its size and profitability of the arcade games have been increased. There were strong restrictions imposed on speculative games 10 years ago like Korea, but the government is considerably supporting to develop the arcade game industry by decisively lowering the barriers of regulations. Especially large scale game centers have been increased, and they are under development of new concept of space where consumers can enjoy various kinds of arcade games from simple graphic games to small scale rides.

It is expected that the possibility for any new changes or improvement are very low in Korea. The regulation regarding “multi-bang” to be enforced in September 2012 is an example. Game centers falls under the same category as “complex game distribution service” with the “multi-bang”, which karaoke room (Norae-bang), PC cafe, and video-bang are combined. As a result, game centers are applied by the same regulation as multi-bangs, which became notorious place for leading teenagers astray and their access is restricted.

According to the statistics of Game White Paper in 2011, the highest ratios of age band for using game centers is teenager.

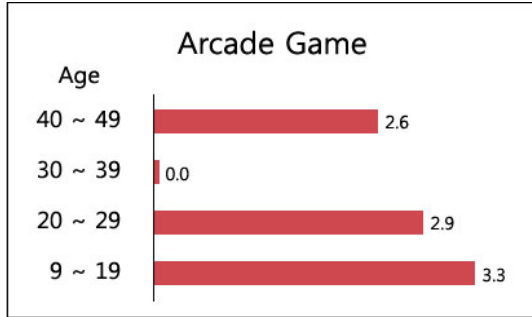


그림 1. 연령대별 아케이드 게임 이용도
Fig. 1. Availability of arcade games for Ages

Also game centers are mostly the places to play arcade games. Being applied by the regulation and thus restriction on the major customer teenagers' access will reduce profitability and act as a burdensome factor for business operators. It is expected that the number of game centers would decrease and eventually strike a blow to the arcade game industry.

3. Revitalization Measures for Arcade games in Korea

I would like to propose two revitalization measures for domestic arcade games in order to secure core competencies on the basis of diversification, and to develop engineering technologies.

(1) Turning Perception Around for Arcade Games

The biggest problem in speculative games is monetization of coins or gift cards. It is worth to try and establish new supplementary system to restrict the monetization by selective supplementary means such as book gift cards or culture gift cards.

By doing away with stereotype that "game center is the place for arcade games" and turning the perception around, domestic arcade game industry can gain its ground for comeback with new concept like "FEC" as

new culture space which has been a new development drive for overseas arcade game industry.

From the relative point of view, the industry needs to prepare for competition measures towards online and mobile games which are continuously gaining their scales. As a benchmark of network connection in Japan creating real-time participation, the domestic industry needs to develop itself by utilizing mobility and real-time interaction which are the characteristics of mobile and online games.

It needs to develop supplementary technology compatible with mobility merit of mobile games by developing differentiated and yet unique controller with reflecting the characteristics of game software, an engine for arcade games.

(2) Development of Functional Games

As graying becomes a serious issue, development of functional games, in which aged people as a blue ocean market can play and learn effective way to practice, is acutely required, for instance, game effective for preventing dementia, or educational game for learning new skills or knowledge.

By installing functional arcade games at welfare centers or parks where relevant consumers are gathered to be more accessible and providing game software suitable for aged users, arcade game industry may have opportunities to regain its ground in the market where its market share has been contracted.

IV. Conclusion

This study is to address development proposition for the domestic arcade game business by analyzing both domestic and overseas status on arcade game industry that accounts for great portion of worldwide market. Even though current domestic arcade game industry accounts for remarkably low market share, it is needed to consider each overseas market's environment, in which overseas markets are

maintaining their status or improving their market share.

In order to successfully march on with the foregoing proposition, the industry needs to break from the convention, and to access the market from the high-dimensional standpoint along with analyzing best practices in overseas markets.

It is needed to establish a turning point for domestic arcade game industry, which has been losing its ground, by breaking from stereotype and by developing and adopting the competencies of mobile sectors such as real-time features and user's participation. It is highly expected that this study can contribute to the development of domestic arcade game industry on the basis of diversification and flexibility in the entire game industry ultimately creating new business opportunities.

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