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Korean Government Involvement in the Online Game Industry: An Analysis of Perception and Effectiveness

온라인 게임 산업에 대한 한국 정부의 개입:
인식과 효과 분석

Brandon Walcutt*

브랜던 월컷

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... Abstract ...

본 논문의 목적은 한국 온라인 게임 산업을 구성하는 게임 회사들에 대한 전례에 근거하여 한국 정부의 정부에 대한 유효성을 평가하기 위함이다. 국내 온라인 게임 회사를 대상으로 설문 조사에 의하면 회사 및 전반적인 산업에 대한 지원에 관련하여 인지되는 가치와 유효성에 있어 정부의 활동과 역할이 평가되었다. 또한 정부 활동에 대한 유효성과 범위에 관해서 회사들은 상당히 긍정적인 인식을 취했지만 산업발전에 있어서 필요한 부분과 현재 제공되는 지원에는 많은 차이가 있다고 조사되었다. 국제 마케팅 보조, 혁신지원, 교육 프로그램, 산업 협력 증진, 투자·자본 입수, 수출 보조, 및 산업에 대한 협회 정부의 수동적인 태도 개선 등을 포함한 6개의 세계적인 영역에 관련하여 구체적인 쟈인이 제공되었다.

Key Words : Korean Online Game Industry, Korean Game Industry Agency, KOGIA, Korean Government Policy Effectiveness

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I . Introduction

When the word “online game” is mentioned, many people immediately visualize the stereotypical image of a dark PC room, reeking of cigarette smoke, echoing with the electronic sounds of gunfire and Go Stop card slaps and filled with zombie like teenagers staring at PC monitors. Although this image does have some degree of truth, it does not truly portray the substantial value that all the various commercial and governmental players have added to the overall success of the Korean online game industry. Although there is no possible way to ignore or discount the life, energy, value and creativity the gaming companies themselves have brought to this new and dynamic industry, one cannot ignore the contributions made by the involvement of the Korean government. The government plays four primary roles in the promotion and regulation of the industry and has carried out a wide range of supporting activities that range from the promotion of games and gaming companies to international audiences to the training of the gaming companies’ workers.

A perennial question that is considered when looking at government participation in any industry pertains to how effective its policies are in support of its constituents and especially how those constituents view the work of the government. This paper will specifically identify, analyze and evaluate the roles and activities of the Korean government in the online game industry through the eyes of their constituent gaming companies. This evaluation will determine the usage and perceived value of the various governmental programs by the online game companies. Through the use of the gaming companies’ evaluations, recommendations are proposed that, if used for policy and program development, will improve the Korean government’s effectiveness in supporting individual companies and the online game industry as a whole.

In Part I of this paper, foundational material will be provided that summarizes the concepts that will be discussed within the course of the document. Part II will introduce the Korean online game industry in terms of its primary products, markets, sales and exports. Part III explores the roles and activities the Korean

government fulfills within the industry. More specifically, this section examines the past and on going activities of the government and its representative bodies in support and regulation of the online game industry. Part IV introduces the views and perceptions of Korea’s gaming companies on the activities and effectiveness of the Korean government’s involvement in their industry. The last part of the paper will provide recommendations for the Korean government to follow to improve its support of its commercial constituents and the overall industry.

II . The Market for Online Games in Korea

With direct sales totaling almost 1.8 trillion Korean won (USD \$1.88 billion per the US Federal Reserve Bank’s 2006 average exchange rate) in 2006 alone, Korean online games can no longer be considered child’s play and have entered the world of big business. Since online games first entered the Korean marketplace, substantial changes have occurred within the industry, player demographics, and government involvement. These games are expected to continue to evolve and contribute a great deal to the Korean domestic and export economies, but will also face growing threats to their continued success. To properly introduce the current industry, it is necessary to first define exactly what the industry consists of and provide a brief history as to where it has been and where it is going.

Online games, which can be defined as games that connect many players together on a server that can be accessed over the internet by individual PC terminals, first entered Korea in the 1990s and were popularized with the advent of such foreign games as Starcraft and FIFA 99. At this time, these foreign games had virtually no domestic competition and took majority control of the Korean market. Starting at the end of 1999, however, home grown Korean games began to replace many of the foreign imports.

One of the first and most successful domestic games that reached the market was NC Soft’s Lineage. Lineage is the representation of a fantasy universe populated by a horde of monsters as well as player controlled wizards, elves, and

warriors for whom quests and war is a daily business. Lineage is known as a MMORPG or a Massively Multi player Online Role Playing Game in which literally thousands of players can inhabit and explore this digital fantasy world at the same time. At its peak in 2003, Lineage is reported to have had over 3 million subscribers, but has since steadily declined.(MMOG, 2008)

The Lineage MMORPG is just one example of the many widely successful games and game genres that have emerged in the Korean market. Currently, Role Playing Games (RPGs) are the most popular genre, capturing 33.1% of the market according to the Ministry of Culture and Tourism's Korea Game Information Agency.(Rise of Games, 2007, p.51) Other popular genres include FPS (First Person Shooter) games such as Sudden Attack, racing games such as Kart Rider, board games, strategic simulation games and a host of others. Figure 1 provides a list of the top 6 game genres and their domestic popularity.

Figure 1

Genre	Popularity
Role Playing Games (RPG)	33.1%
Strategic Simulation Games	13.3%
First Person Shooter (FPS)	10.7%
Web Board Games	10.6%
Casual Games	9%
Sports Games	6.2%

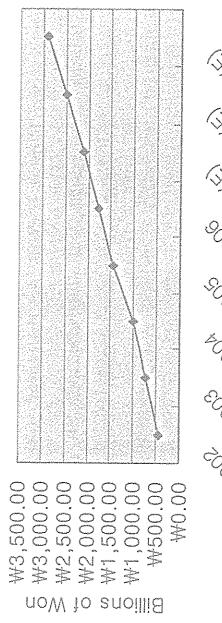
Source: 2007 Rise of Games

pp.23-24)

The demographics of Korean online gamers are another thing that has evolved. In the 1990s, the average gamers were young men. Today, the situation is much more complex. Although different demographic types prefer different game genres, the user base has expanded to include a growing number of women and older people. From the survey conducted by KOGIA, women comprised about 35% of the current, active players and 13% of the active gamers were older than 39.(Rise of Games, 2007) These statistics are expected to continue to change as online games become even more pervasive throughout our society.

From an economic standpoint, online games in Korea have risen from being a nonentity to a relatively substantial part of the Korean economy. In 2006, the total market volume of the electronic gaming industry totaled 7.45 trillion won or .88% of Korea's GDP through its direct sales, distribution and publishing efforts according to Dillon Seo of KOGIA.(Seo, 2007) Of that amount, 23.9% or 1.78 trillion won was the result of the market for online games.(Rise of Games, 2007, p. 12) This figure, attributed to the online game industry, is expected to continue to grow for the foreseeable future. Overall industry growth is estimated as likely to reach a 19.1% annual growth rate until 2009.(Rise of Games, 2007, p.16) Figure 2 details the actual sales amounts from 2002 to 2006 and provides estimates for 2007 to 2009.

Figure 2: Online Games Sales Figures



Source: 2007 Rise of Games

As each evolution in the industry rolls through, new technological changes allow for improvements in graphics, usability and realism. These changes allow Korean game companies to continue to offer new games and related products to meet the needs of the increasing numbers of players both domestically and abroad. One example of related product offerings is that of e-sports. E-sports originally started as online game competitions between amateur players. The practice, though, has grown considerably and now involves 12 professional teams with 310 registered professional gamers and even has dedicated TV channels. (Rise of Games, 2007,

Online game exports have also seen great changes. Within a decade, Korea has gone from a net importer to a net exporter. Exports rose to a sum of \$672 million in 2006. This sum comes from the global online game market which Mirae Asset Securities expects to grow to over \$10 billion by 2009 (Cho, 27 Oct., 2007) Currently, primary export destinations for Korean games include the United States, Japan and Taiwan with increasing market penetration and revenue coming from China.

Although Korea maintains one of the top positions in the world online game industry, it cannot rest on its laurels. There are an increasing number of threats that are becoming more serious to Korea's continued leadership. The primary threat stems from the lack of innovation in story lines and game types. NC Soft's revenue has decreased by 16% in the second quarter of 2007 alone as Lineage is losing its popularity and players begin looking for different games.(Cho, 22 Sept., 2007) Other titles in this genre suffer from similar symptoms. It is believed that additional collaboration between small and large Korean game companies will assist in solving this problem by coupling innovation and the successful capability to develop and market the games. The second major threat comes from growing international competition as new foreign companies try to win control of the game market. Being online decreases the barriers to market entry, thus making continued Korean success more tenuous.

Despite the threats, the outlook for the Korean online game industry remains positive. NC Soft will be rolling out its new, multibillion won game "Tabula Rasa" in the near future with Hanbit Soft doing the same with "Hellgate: London". Other domestic companies are preparing similar offerings to help Korea and its online gaming companies retain a leading position within the marketplace.

III. Korean Government Involvement in the Online Game Industry

Korean online gaming companies have worked hard to build and develop their industry from a nonexistent state in the mid to late 1990s to what it has become today. The companies themselves, however, are just one group of the many players in this industry. Of those other players, one that has contributed a considerable amount to the industry's current implementation, regulation and domestic and foreign success is the Korean government. The Korean government, through a number of different incarnations that have been managed under the aegis of several ministries at different times, has played several roles in the promotion and regulation of the industry and has carried out a wide range of supporting activities that progress from the promotion of games and gaming companies to domestic and international audiences to the training of the gaming companies' workers.

This section of the paper will summarize the history of the Korean government's involvement in the industry and detail the roles and activities it has carried out in the promotion, support and regulation of Korean online game businesses. Also touched upon will be a glimpse into the global themes, plans and goals the agency wishes to realize when moving into the future.

The Korean government first became more directly involved with the online game industry in 1998. Before this time, the industry was in its infancy and had not acquired much distinction between it and other forms of electronic games, such as the game arcade industry. In August 1998, however, things began to change when the game-related management offices were moved from the Ministry of Health and Welfare to the Ministry of Culture and Tourism and ties were established to the Ministry of Commerce and the Ministry of Information and Communication. These ties were set up to assist the Ministry of Culture and Tourism in creating the initial supportive policies for the gaming industry.

The government also began to establish additional pillars upon which to support the industry with the enactment of the 'Music, Video Products and Game Act', which created the current gaming industries' foundational policies. The laws outlined the early approaches to be taken regarding the promotion of game

creation, the cultivation of specialists, establishments of infrastructure, a distribution structure and a game rating system. Following up on the earlier legislation, the next major step was the creation of the Game Promotion Center. This center was the predecessor of its current incarnation as the Korea Game Industry Agency (KOGIA) and is considered to be the first major movement towards the recognition of the individual importance of the gaming industry.

These supporting activities were the government's first real steps moving the gaming industry forward. Since the founding, many initiatives and programs have been implemented, tried on for fit and either continued or set aside as the Game Promotion Center began, from a governmental perspective, developing the industry. Below, Table 1 outlines most of these initiatives and programs that the game agency has implemented. All can be grouped under 4 primary roles: Regulatory/Policy/Cultural, Promotional, Support and Financial.

Table 1: Korean Governmental Online Gaming Roles		Dates Offered
Regulatory / Policy / Cultural Roles		
Created the Game Promotion Center (the predecessor to the current Korea Game Industry Agency) to handle all policy, promotional, and cultural aspects of the gaming industry.	1999 - Current	
Develop medium and long term goals and policies for the gaming industry.	1999 - Current	
Game Intellectual Property and Copyright Protection - legislative protection and enforcement.	1990s - Current	
Monitor and rate all published games through the Game Rating Board.	2002 - Current	
Develop and maintain "Gaming Culture Development Project" including Gaming Camp, Game Music Convention, and the Game Culture Campaign.	2002 - Current	
Monitor and strictly censor gambling.	2006 - Current	
Promotional Roles		
Game idea, etc. awards and promotion.	1999 - Current	
Assistance with gaming trade and road show creation/hosting.	1999 - Current	
Publish and distribute the 'Korea Game Content' booklet which lists all Korean gaming companies.	2003 - Current	

Provide participation programs for e-Sports cultural expansion (ie. National e-Sports Competition for Disabled Students	2005 - Current
Hold the International e-Sports Symposium	2006 - Current
Support Roles	
Manage game industry strategy/current issues conference, investor conferences, and export conferences, discussions and seminars.	1999 - Current
Promote cooperative projects between large and small companies.	1999 - Current
Serve as a game company incubator.	Approx. 2000 - 2004
Operate the Game Academy to provide game and developer training.	2000 - Current
Also acts to distribute core technologies.	
Operate the Game Research Center to provide market and political research,	2000 - Current
Maintain the Game Library	2000 - Current
Publish annual and quarterly materials to inform and link game industry players.	2003 - Current
Organize and Manage an e-Sports Specialist Forum	2006 - Current
Miscellaneous activities such as language localization and beta testing assistance.	1 Time Activities
Financial Roles	
Financial assistance to exhibit at gaming trade shows and exhibitions.	1998 - Current
Venture Business Evaluation (KOGIA sponsored)	2000 - 2005
Investment syndicate support system.	2004

Regulatory / Policy / Cultural Roles

The first role the Korean government has played relates to Regulatory, Policy and Cultural matters. Within this role, major changes and policy initiatives have been implemented in 3 main waves. The first wave relates to the actual creation of the agency itself with the enactment of the 'Music, Video Products and Game Act', the move in personnel and responsibility to the Ministry of Culture and Tourism, and the creation of the Game Promotion Center.

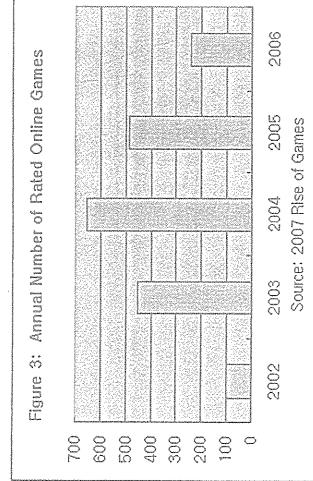
The second wave of changes occurred in 2002. At this time, the agency became involved in promoting digital gaming content as a cultural element to the population of Korea with its ‘Gaming Culture Development Project’. This project currently includes a gaming camp, a game music convention and a game culture campaign. The main purpose of these events is to promote a positive image towards games and the gaming culture to the public at large.

Another major initiative started in 2002 and involved the establishment of the Game Rating Board. The objective of this board is to review all games that companies want to publish and essentially weed out those that are felt to be socially undesirable. According to a KOGIA employee, this rating system was not only highly demanded by the public, but also by the gaming companies themselves.(Seo, 2007) As can be seen in (Figure 3), the number of games submitted for review has fluctuated considerably since 2002. Much of this fluctuation is due to the relatively long development time and capital requirements needed to produce new online games.

disguised. These regulations affect the industry by limiting gambling-related games as well as by causing a ban to be placed on game item or cyber asset sales. The Ministry of Culture and Tourism announced in May 2007 that it plans to “prohibit the trading of cyber items by ‘unfair’ and ‘illegal’ ways...to ‘promote’ the healthy growth of the game industry”.(Cho, 11 May, 2007) This ban could effectively be interpreted to include the entire game item trading business and would shut down the numerous online vendors that buy, sell and auction game items for real money. This ban, however, seems to have failed to materialize as it is estimated that there are, as of October 2007, 200 item trading web sites operating in Korea.

Promotional Roles

Another major role played by the Korean government involves the promotion of Korean online gaming companies and their products both domestically and internationally. Domestically, the government has been indirectly marketing gaming products through culturally oriented programs such as game camps and the like. However, the government has also been quite active on a number of levels in terms of directly promoting games and their publishers within Korea. One of the primary vehicles they have used to accomplish this task has been through game awards. KOGIA has been helping promote games, and their creators, that have showed great cleverness, originality and marketability. These awards have been helpful for the smaller and medium sized firms to attract the notice of the larger companies and the public to help secure cooperative products or partnerships.



A second major promotional role has been its assistance in helping market gaming companies and their products through trade and road shows. In terms of promoting through trade shows, KOGIA has often given Korean gaming companies booth space for free or for a subsidized fee. These trade shows have been held here in Korea and abroad. The primary domestic trade show, G-Star (Game Show and Trade All Round), is organized in cooperation with KOGIA and acts as a showcase as well as providing a medium of communication between national game brands and overseas gaming companies. G-Star has reported that 500 meetings took place during the 2006 show which resulted in \$267 million in deals. However,

The third wave involved a major crackdown on gambling. Starting in 2006, the government clarified its approach to gambling by passing stricter laws in censoring gambling oriented games and identifying regulation penalties. Regulations were also established that placed limits on what the games can offer as prizes or prize offer types as well as outlining restrictions that strictly prevent exchanging resulting game products for money or jobs - whether it is obvious or

only \$2 million worth of those contracts were actually signed during the course of the expo itself.(Cho, 3-4 Nov., 2007, p. 7) Road shows are another method of spreading the word about Korean online games. In the past, road shows have been typically held in the United States, China, Japan and in Europe. During these events, other than setting up the road show, the gaming agency simply acts as a mediator between the Korean and foreign parties.

In conjunction with the agency's work, KOGIA also publishes and distributes an annual booklet in English called "Korea Game Content". This booklet lists information about all the game industry related companies and is meant to serve as a source for foreign companies to contact Korean firms on potential partnerships, licensing, and other matters.

The last major activities within the sphere of marketing are those related to the promotion of electronic sports, otherwise known as e-sports. Due to the popularity of e-sports, KOGIA has participated in their development as a way to boost both the cultural support for the game industry as well as a bid to assist with the economic growth of the industry. Starting in 2005, KOGIA began to provide participation programs and symposiums for e sport expansion, such as the National e-Sports Competition for Disabled Students and the annual International e-Sports Symposium.

Support Roles

One of the largest roles of the Korean government in the gaming industry is that of supporting the growth and well-being of game related companies. The first and primary way KOGIA fulfills this role is through information. First, it collects and provides the government with information about the industry to be used for making policy and providing support. Second, it provides gaming companies with policy information as well as data on domestic and foreign markets. Basic information is disseminated through a continual series of discussions, seminars and conferences on game industry strategy, current issues and investment and export opportunities. Determined that Korean online games become a viable source of exports, the agency also began to provide foreign country market and political

research. This research was key in helping Korean firms identify export opportunities and begin to publish their games overseas.

Additional information provided to the industry and public comes from the materials KOGIA publishes on a quarterly and an annual basis. These publications outline developments in the markets and in the legal and political arenas as well as provide information on gaming companies and trends.

The government agency also began playing a role as a middleman by assisting in the partnering of large and small Korean companies to improve the overall strength of the industry. It was well understood that many of the smaller gaming firms had good concepts for new games or business models but, due to limitations, were often not able to develop or implement their concepts. Larger companies, on the other hand, had all the capabilities to implement concepts yet many lacked that singular great idea. Therefore, putting the two companies together not only strengthened cooperation between industry members but also increased the final output of the industry in terms of numbers of offerings and sales.

Other supporting activities have involved the initiation of industry forums, such as the e-Sports Specialist Forum, acting as a business incubator and providing skills development. For a number of years, KOGIA actively assisted in the incubation of new gaming companies. This offering was discontinued after several years due to the growth in the market and its players. With the current size of the market and the fact that many of the larger companies are now offering incubatory services, the government did not feel the need to continue this practice. The agency has also supported the development of individual skills. In 2000, the Game Academy was opened. This academy serves to provide business and developer training to people wishing to pursue a career in the game industry and graduates several hundred individuals every year.

The last items in the government's supporting role have been several one time only activities. The first of these one time activities was in support of the

localization of a Korean game for a foreign market. Believing one of the keys to the sale of domestic games abroad would be language localization, KOGIA conducted a trial test with a constituent company. The company had selected a translator and KOGIA had footed the bill. Due to issues with the translation, there was a poor end result and the agency deemed this supporting service to be ineffective and discontinued further efforts in this field. Another of the one time activities was in assisting with a concurrent user beta test for an online game. This is one of the technical supports that KOGIA has occasionally provided. Although the test was successfully completed from KOGIA's side, they have transferred the further support of future activities in this field to the Korea Cultural Content Agency, a governmental sister organization.

Financial Roles

The final role that the Korean government has been involved in is that of financial assistance. This role, although perhaps the least of its roles, still provides a great deal of necessary support to the newer and lesser capitalized firms within the industry.

As mentioned earlier, the government has actively supported a policy of subsidizing Korean gaming companies, through various methods and criteria, in exhibiting at game-related trade shows and exhibitions. This policy started as early as 1998 and has continued to the present day. Another method of assistance was through the creation of an investment syndicate. Several attempts were made at the creation of such a syndicate. Ten to fifteen million dollars were pooled with part of the money coming from the Korean government and the rest from other sources. Of the initial companies that used this money, only Webzen was a success story. This assistance was discontinued in December 2004 due to the improper distribution and handling of the funds.

A third way to support companies from a financial perspective started in 2000 and lasted until 2005 before being handed off to another agency. This program was the 'Venture Business Evaluation', which was used for new gaming companies to receive certification and financial-related support, such as loans and

tax benefits, from the government.

Overall, the Korean government has been involved with many different roles in support of the online game industry. They have implemented a growing number of programs in the marketing, policy and regulation, general support and financial fields. Most of their programs have worked and have provided some solid benefits for the involved Korean firms. Those programs that were either difficult to administer or ineffective were scrapped or are being reformulated. In the eyes of KOGIA, the government has been very effective in the support and growth of the Korean online game industry and is making plans on how to continue that trend leading into the future.

These plans include the continuing of the existing policies of creating a healthy domestic gaming culture, further development of making the Korean game industry globally competitive, continual emphasis on improving gaming technology, and building a strong foundation for continual industry growth. Beyond the basic growth and strengthening of the industry, the "government's middle and long term policy goals in the interests of nurturing domestic game industry lies in actualizing one of three game powers globally by 2010." (Korea IT Times, Feb. 2007, pp. 66-67)

IV. Perceptions of Korean Gaming Companies

The stated goal of this paper is to examine the role of the Korean government in the success of the domestic online game industry and to evaluate the work they have been doing. In Section III, we looked at the many roles and activities of what KOGIA, the name of the current game related governmental agency, has implemented and has either continued or discontinued on the basis of its perceptions of perceived effectiveness. This information is valuable in identifying what has been happening and the government's ideas of what programs are effective. However, it is difficult to ascertain the true value of what has been done in support of the industry without considering the perceptions of the primary

player, that of the governmental agency's commercial constituent, the online game company.

To take a closer look at the gaming companies' opinions, needs and perceptions, questionnaires were sent to the companies in the industry and those returned were analyzed for insights regarding the governmental effectiveness in assisting industry growth and support.

1. Questionnaire Development

The questionnaire focused on several primary areas of questions. The first area dealt with the respondent's general impressions of the industry, their usage of government services, and value of governmental involvement. The second section focused on whether the respondents had heard or used the offered services and if so, what their perceptions were of the effectiveness of the individual services that KOGIA provides. The last section inquires as to areas in which the respondents may be interested in receiving additional assistance and specifically what they are requesting or suggesting. Appropriate questions in the first two sections regarding the respondent's opinion of the value or effectiveness of government assistance utilized a five point Likert scale anchored by 1=most negative, and 5=most positive, with 3=neutral (neither negative nor positive) as the midpoint. The remaining questions were either yes/no or open ended.

2. Data Collection

An email based survey was employed in the study. The questionnaire was transmitted by e mail to the 216 email addresses provided for the 174 companies listed as the online game related companies in the 2007 Korea Game Content booklet that is annually published by the Korea Game Industry Agency. This list of companies, based on an interview with KOGIA employees (Seo, 2007) and with information contained within the KOGIA written materials, can be assumed to be the primary companies of the online game industry in Korea. The email message described the purpose of the research and invited each receiver to fill out the survey and return it.

A total of 62 e mails were returned as undeliverable. Thus, the actual undeliverable rate was 28% (62 of 216). Due to a rather low number responses, the author researched the companies whose emails were undeliverable and either resent the emails to new addresses based on the information listed on individual company websites or called the companies directly to acquire the necessary contact information. Contact was not possible with many of the firms. Many of those additional emails were also undeliverable and the listed phone numbers from both the booklet and the website were to disconnected phones. Although it cannot be completely ascertained whether a company is active or operational based on inactive phone numbers, email addresses and websites, the author has downgraded the believed operational gaming companies to around 150 or fewer of the original 174 listed companies. There can be many reasons for the companies to have "disappeared", such as the extremely competitive nature of the business, great difficulty in successfully publishing commercially successful games or a deficit in the capitalization of many firms. One or more of these reasons could have either forced a temporary shutdown or a permanent exit from the market.

In the end, the responses from 10 participants were forwarded to the author via email. Thus, the effective sample size is 10 and the final response rate was 7% of the online game industry based on the downgraded total possible company population. Although this sample size would be inadequate for many studies, the author believes it is sufficient for this study for two reasons. First, despite the low overall number of responses, 7% of an entire industry is believed to be a large enough percentage to provide some generalized insights as to the perceptions, needs and concerns that the overall industry members might have. Second, the responses received express a fairly high degree of similarity and so represent at least some level of commonality within industry members.

3. Profile of Respondents

From a formal, definitional standpoint, the vast majority of Korean online game companies fall into the categories of being either a small or a medium-sized company (SMBA, 2008) All the respondents of this questionnaire fall within the medium sized company category, but 20% of the firms fall just above minimum

number required for a medium sized firm. Of these smaller medium sized firms, the average number of employees is 17 with an annual reported turnover of \$200,000 or less. The rest of the medium sized firms have an employee average of 84 people and an average annual reported turnover of \$8.4 million. In addition, the average responding company was launched in 2003 and all respondents are based somewhere within the Seoul region.

4. Respondent Results

The results of the respondents will be discussed based on the 3 areas found in the questionnaire. Given the rather similar profiles of the respondents, it may not be a great surprise that, although there is some variation, most companies' opinions about the industry and the effectiveness of the government were fairly similar. The questionnaire area with the greatest diversity in answers was that pertaining to the specific assistance being requested by each company. Even in this section, however, there were many reoccurring themes.

Questionnaire Section 1 Results: Industry and Government Evaluations

Questions in the first section of the survey dealt with the general ratings of the industry, government effectiveness and firms' abilities to compete with or without government assistance. The mean scores can be found in Table 2.

Table 2: Questionnaire Section 1 Results: Industry and Government Evaluations

Question	Mean Rating	Stan. Dev.	Interpretation
1. Overall game market rating?	3.55	.83	Overall market perception is neutral to slightly positive which may be caused by the high competition coupled with the great rewards in the domestic market.
2. Used/Benefited from government assistance?	.8 (1=all Yes)	—	Almost every firm has used or benefited from govt. assistance at some point.
3. Was the assistance effective?	3.6	.52	The govt. assistance received was perceived to be somewhat to fairly effective.
4. Overall govt. effort to support/promote industry	3.3	.67	The perception of the overall govt. efforts is relatively neutral.

5. Your ability to realize company goals without govt. assistance?	3.3	.67	Companies perceive themselves as being able to compete fairly well in the market, but still have many reservations.
6. Your ability to realize company goals with govt. assistance?	4.2	.63	It is perceived that additional govt. assistance would definitely provide companies a greater ability to compete.
7. Has the govt. talked to your firm about your needs?	.6 (1=all Yes)	—	A little over half the companies feel that the govt. has asked and understood their needs and concerns.
8. Positive results from discussion?	3.21	.91	Although the govt. knows their needs, the companies are neutral as to whether positive results have been achieved as the result of their discussions.

To summarize the results of the first section, online game companies are somewhat to fairly positive about the industry as a whole, their individual, unassisted ability to compete, and the effectiveness of the governmental services that each had used at some point. In addition, even though the companies as a whole were fairly neutral as to the overall efforts the government has been making to support and promote the industry, the firms believed that, with government support, they would have a better ability to compete in the marketplace.

Questionnaire Section 2 Results: Service Utilization and Effectiveness

The second area of the survey pertains to specifically which of the governmental activities that the gaming companies have heard about or utilized and if utilized, their opinions regarding its effectiveness in industry support. The responses are listed below in Table 3.

Table 3: Questionnaire Section 2 Results: Service Utilization and Effectiveness

Service	% Firms Heard of Svc.	% Firms Used Svc.	Mean Effect Rating of Utilizers (1=Low Eff., 5=Highly Eff.)	Stand. Dev. of Utilizers
Domestic Game Exhibition Support	100%	30%	4	0
Foreign Game Exhibition Support	100%	40%	4	0
Export Promotion Assistance	100%	50%	4.25	.5
Marketing Information	100%	30%	2.75	.96

PR Support	100%	20%	3	0
Cooperation Assistance with Other Companies	83%	20%	2.5	2.1
Employee Training	86%	10%	-	
Game Awards	100%	20%	4.5	.71
Game Library	86%	50%	4	0
e-Sport Participation	100%	10%	4	0
Copyright Protection	66%	10%	2	0
Consumer Protection Laws	50%	10%	2	0
Game Rating System	100%	50%	3	0

KOGIA provides a full assortment of different services to online gaming companies. Most of the companies have heard of the many services provided for their benefit, but few of the services are actually used very heavily by the industry members if at all. Of all the services provided, the only ones that are heavily used, ie. are utilized by 50% of the responders, relate to export promotion assistance, the game library and the game rating system. It could be inferred that the rest of the services are not as heavily used because the service may not directly involve the majority of the companies and is therefore not well used, ie. consumer protection laws; is either not well promoted by KOGIA to the gaming company community or is a fairly new service that they are currently trying to develop but have not perfected, ie. cooperation assistance; or is a subject that doesn't directly fit the companies' products so therefore enjoys low utilization, ie. e-Sport participation.

The service effectiveness shown in Table 3 comes directly from the mean rating provided by only those responders who actually utilized that particular service. The ratings provide great insight as to the perceptions and opinions of KOGIA's constituent commercial companies and will be incorporated into the final analysis and recommendations portion of this paper.

One note of interest regards the game rating system. This service enjoys the highest usage, but actually reveals a potential flaw in the survey or in the information provided by the respondents. As discussed in Section II of this paper,

it is a requirement that companies submit their games to a review board before being allowed to publish. The fact that there is not 100% listed can only come from either a situation where some respondents belong to new game companies that have not yet published their work or was a mistake by the person filling out the form. As it is believed that every responding company has been in business for a number of years and has published games before, it is assumed that these particular responses were not entirely accurate.

Questionnaire Section 3 Summary: Requests and Suggestions

The last area of the survey asked the responding companies to note the specific areas in which their firms would like additional assistance from the government as well as providing other general comments. In compiling and classifying all the requests and suggestions, there exist seven common areas. Some of these areas are discrete, but most share a great deal of overlap. The seven areas are: Cooperation, Education, Finance, Infrastructure, Legal, Localization and Marketing. Responses from each area will be briefly summarized in Table 4.

Table 4: Questionnaire Section 3 Summary: Requests and Suggestions

Cooperation	Project cooperation amongst firms is desirable and should be promoted through (a) establishment of a site for industry member cooperation and (b) governmental incentives.
Education	Educational assistance and human resource development should be encouraged. However, the focus should <u>not</u> be on the technical aspects of the business, but rather on a more pragmatic level starting with how to, practical instruction on business, marketing, and administration for gaming companies.
Finance	Businesses within the industry are most interested in governmental assistance that will help attain low interest loans/financing for covering hardware and project development expenses. The government playing a more active role in lining up investors, venture capital money or investment fund credits is also greatly requested.
Infrastructure	Cost effective ability to run beta tests in overseas markets with unique infrastructures, ie. China, is highly desirable. Assistance either through providing such testing infrastructure or financial support to go through existing private foreign firms is needed.

<p>Legal support and assistance is requested both at a domestic and international level. Domestically, a consulting service with information on licensing contracts, etc. is requested. Also, a request that the Korean government ensure that all firms obey the laws was also tendered. Internationally, a great deal of emphasis by all companies was placed on the government working with the countries in which Korean firms are doing business to ensure a level, competitive playing field. One market, China, was mentioned specifically by several firms as an example where foreign companies are discriminated against or are not adequately assisted when illegal infringements are committed.</p>	<p>Availability of a game content related consultant to assist in localization would enhance the ability to adapt local products to international markets. Having access to such an individual available through KOGIA would be an asset.</p>
	<p>As with legal support, marketing help is needed both domestically and abroad. General assistance with promotion within Korea is requested, but, more specifically, improvements within the existing game trade show framework needs to be implemented. The number of shows is sufficient, but more preparation and business matching services are needed. Internationally, a great deal of help is required ranging from assistance with public relations, game promotion, business matching services, easy access to overseas business information, export counseling and increased introductions to foreign companies. This area showed the overall greatest need for all respondents.</p>

In summary, many of the above requests, comments and suggestions regarded services that are not currently provided by KOGIA. Many more requests were meant as improvements to current service offerings. A smaller number were for services that had previously been offered, but were discontinued after not living up to expectations.

The results of the questionnaire shed a remarkable amount of light on the problems and deficiencies surrounding the current offerings by KOGIA and the Korean government to members of the online game industry. It also showed that the agency has provided a solid and respected foundation from which, with some upgrades, a solid partnership can be built that will better support the needs of the industry. Section V of this paper will deal with recommendations stemming from this research on how the government can better support the industry.

V . Recommendations and Conclusion

KOGIA, the current governmental online computer game organization, has enjoyed a fairly long history in terms of the overall age of the respective industry it supports. During its tenure, the agency has tried many different activities that revolve around the support of its four primary roles. As discussed in Section III of this paper, some of the activities have been considered successes by KOGIA in terms of the support they provide to the agency's commercial constituent gaming companies or the value they provide to the public at large.

The activities that are believed to have been successful have been continually implemented and are part of the government's strategy to continue building a world class industry. The activities that have not fulfilled their promise in the government's eyes have been discontinued. In the viewpoint of the gaming companies, the government may not either be as successful in its activity implementation as it may think or it isn't addressing their most urgent needs.

The final section of this paper deals with providing recommendations as to how the agency can improve its effectiveness in terms of assisting individual Korean companies and thus improving the competitiveness of the industry as a whole. These recommendations will be useful in policy and program development to assist the Korean government in more effectively supporting individual companies and the online game industry as a whole.

After analysis and examination of the responding companies' evaluations of the government's activities and the areas in which they determined they most needed assistance, the following six global recommendations can be made.

The first recommendation falls within the scope of assisting Korean firms in their domestic marketing efforts and would be an improvement to an existing activity. KOGIA currently assists the gaming industry through their efforts to provide exhibitions. An example of this would be the annual G-Star held in Ilsan. This service needs to be reformulated to improve the overall quality. Specific

suggested tasks include:

- Building more international attention by luring more foreign companies to exhibit through adding value, not by exerting undo pressure.(Cho, 3 Nov., 2007, p. 7)
- Moving the exhibition to a central location that is more reachable by attendees.
- Improving the business matching services available to exhibitors and industry related visitors.
- Playing a greater role in reducing the costs for participants to exhibit.

The second recommendation regards improving the course offerings at the Gaming Academy education center. None of the respondents utilized the current technical education services offered and instead ask for more practical classes related to the actual business of running an online game company. Suggested tasks include:

- Polling companies to identify more specific game business educational needs.
- Finding the experts, either domestic or foreign, who can provide practical courses that will meet those needs.
- Upgrading the current course offerings based on the above gap analysis.

Improving cooperation between industry firms is the third recommendation. Based on comments by Deputy Director Cho Chang hee of the Culture Industry Bureau(Korea IT Times, Feb. 2007, pp. 66-67), this recommendation is already recognized as being critical for industry success and necessary programs will hopefully be implemented in the near future by KOGIA. Specific suggested tasks include:

- Improving communication between all levels of the industry either through a more streamlined or accessible extension of current industry forums or the creation of a web site revolving around the projects and ideas of industry members.
- Offering greater incentives, financial or otherwise, by KOGIA to industry firms to encourage partnering.

The financial incentives mentioned above seem to only touch the tip of the necessary iceberg in this fourth recommendation. Access to investment capital was one of the top 2 areas of requests and suggestions by questionnaire respondents. Due to the capital intensive nature of the business, ability to receive necessary finances is critical for company success.

- The primary suggestion is that the government revives the investment syndicate that it sponsored in 2004. However, learnings from the last implementation plus best practices from the industry should be incorporated for the next effort to avoid the issues that caused the previous cancellation.

The final two recommendations are the most vital in building a competitive, world class, sustainable gaming industry in Korea. The fifth recommendation revolves around export assistance. Due to the relatively small and extremely competitive local market, most companies are now focusing more of their efforts on exporting their games abroad. Recognizing these needs, KOGIA currently provides some export promotion assistance. As the current activities have a fairly high effectiveness rating and provide a solid foundation, the author is not suggesting revamping the entire department. However, some suggestions can be made on enhancing the current offering.

- Improve access to game export experts for counseling.
 - Offer better and more accessible (ie. internet site) contact points and business opportunities with related foreign businesses that might be interested in partnering with Korean firms. Also play a greater role in assisting Korean firms in matching with these foreign counterparts.
 - Reoffer localization assistance to allow for better game penetration into foreign markets. Unlike the last offering, provide competent localization and language experts that have been jointly qualified by KOGIA and the requesting company.
 - Assist in making appropriate and cost effective beta testing facilities available to Korean firms in desired foreign markets.
- Work with the foreign governments where Korean games are being distributed and played to ensure a competitive, lawful environment.

The last, and perhaps the most important, recommendation relates to the current passive governmental attitude. One company related that although the online game industry earns Korea more export dollars than the movie industry, there seems to be very little support and emphasis on helping it succeed. Gaming companies are requesting a more proactive and aggressive approach to the government's policies and actions related to this industry. Although games in general have a childish veneer, they bring a substantial amount of export earned money and jobs to the economy. To have the best ability to compete in an international marketplace, the government needs to be ready to actively promote the industry and encourage growth. For example, instead of acting as a general mediator at trade shows, it needs to pitch in where it can to assist in making the sales. It also needs to be ready to put adequate pressure on foreign countries to ensure fair and equal competition for Korean products. To carry out these types of activities, the proper attitude must be maintained.

In conclusion, there is a great deal of promise within Korea's online game industry. By working together, intelligently and pragmatically, Korea's private and public sectors can achieve a stable and sustainable growth in this business. One of the first and foremost steps to be taken is to actively listen to the needs of the other take the appropriate steps to realize the growth. The Korean government has built a solid foundation upon which the gaming industry can build. Understanding their commercial constituents' needs and implementing appropriate changes can continue to move this sector forward.

This study has some caveats regarding the validity of the results and conclusions it reached, but which can also provide directions for future investigation. The first caveat can be based on the questions asked in the course of the questionnaire. If different questions were asked or different instructions were provided, the overall results of the questionnaire could be different in terms of changed answers or potential additional needs or suggestions could have been made by the game companies themselves as to things the government could do to better support their industry. A second caveat is the result of the lack of full industry participation in this study. Due to the low sample size, the results of this

paper might be seen as generalizations of the industry as a whole and therefore not a true representation of the majority of industry members. Further studies that resolve the above caveats may yield more robust results.

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Knowledge Management Systems(KMS) can be defined as a system to effectively manage the knowledge resources of an organization and to support the whole knowledge management process based on information technology infrastructures.

This case study discussed the military Knowledge Management System's operational case through the five different units such as Ministry of National Defense which adopted KMS, and surveyed those of users to investigate the active method of KMS in military.

The results of this research showed that the most important things for the activity of military KMS are securing the system security for sharing the classified information and fitting the current security rules. In addition, several other methods are also proposed, such as community of practice(CoP) activity for the knowledge sharing, CEO's continuous concern and support, and guarantee the full-time worker's working condition.

This research introduces a successful operational method for the military KMS, and makes the units, who use KMS, settle early down by reducing trial and error.

Key Words : Knowledge, Knowledge Management, Knowledge Management System

군 지식 관리 시스템 활성화 방안에 관한 시제적 연구

A Case Study on Facilitating Knowledge Management System Activities in Military

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Joo-il Tak · Ha-jin Hwang

목 차

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Abstract ...

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