White Paper On Korean Games

2015

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SUMMARY

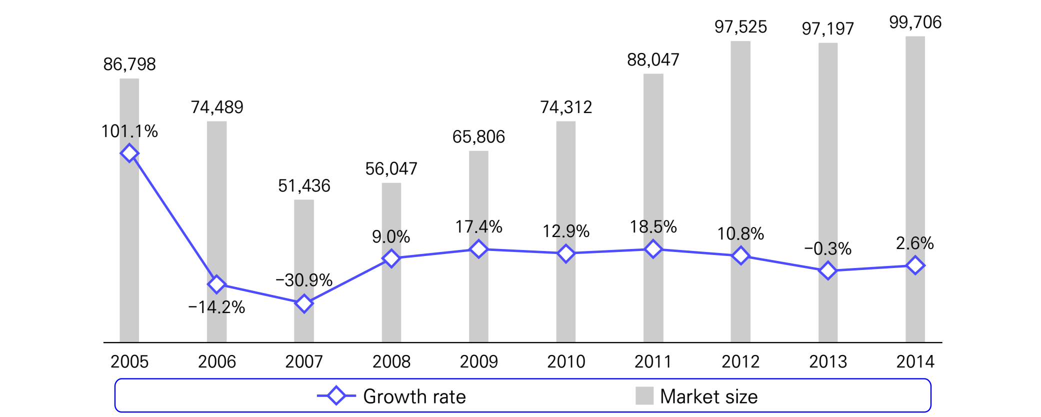
1. Game Industry Trends

1.1 Market size

The Korean game market is estimated to have expanded by 2.6% to KRW 9.9706 trillion in 2014 from KRW 9.7197 trillion in 2013. This figure is truly meaningful for the market in that it succeeded in rebounding after the shock of the previous year 2013 which suffered its first contraction since 2007.

| Figure 1 | Size and growth rate of the Korean game market (2005-2014)

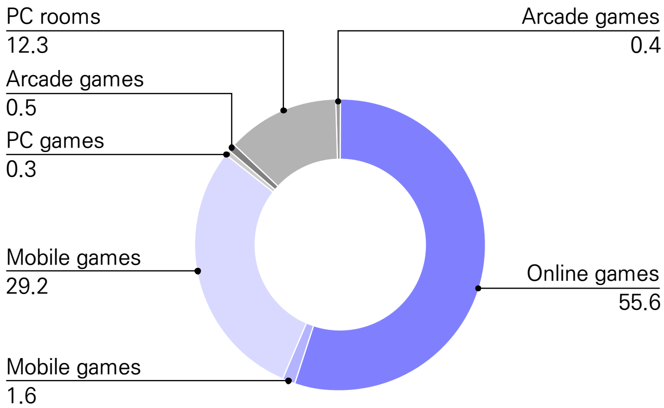
(In KRW 100 million)



In 2014, the Korean game market continued its concentration around a few platforms as it did in the previous year. Online games accounted for 55.6% of the market with KRW 5.5425 trillion, followed by mobile games with KRW 2.9136 trillion (29.2%) and PC rooms with KRW 1.2277 trillion (12.3%). Combined, these three sectors accounted for 97.2% of the total market size, a figure similar to that of the previous year (97.1%).

| **Figure 2** | Market share by sector

(In %)



Growth rate varied a lot by sector. Mobile games, online games and video games grew, with the first, in particular, continuing its growth momentum as high as 25.2%. Online games, in spite of its apparent growth rate of mere 1.7%, showed a dramatic turnaround from the previous year's contraction of 19.6%. The largest growth rate came from video games, which expanded by 70.7% over the previous year. Other platforms than the three shrank sharply over the period. Arcade games and PC games contracted by 35.6% and 11.3%, respectively. PC rooms and arcades also had negative growth of more than 20%, with the former decreasing by 26.1% and the latter by 36.6%. A comparison of market share between 2013 and 2014 reveals that all platforms dramatically lost market share, except for online, mobile and video games. Expanding mobile games, in particular, crowded out other platform games. Last year, mobile games accounted for almost one-third (29.2%) of the entire game market, by gaining an additional market share of 5.3% on top of the previous year's 23.9%. Except for mobile games and video games that expanded their market share to 1.6%, thanks to a growth of 70.7% in 2014, all platforms experienced a reduction in their respective market share. Online games lost their share to 55.6% (by -0.5%), arcades to 0.4% (by -0.3%), arcade games to 0.5% (by -0.3%), and PC games to 0.3% (by -0.1%). PC rooms lost their market share by a large margin from 17.1% in the previous year to 12.3% in 2014.

1.2 Prospects

The Korean game market is projected to grow by 6.1% in 2015, reaching revenues of KRW 10.5788 trillion. Online games and mobile games will be the two main drivers, with the former to increase its share modestly and the latter to continue its huge growth momentum. In 2016 and 2017, as online games maintain a marginal growth rate while mobile games see slower growth, the game market is expected to maintain the average growth rate of 4.3% with the size of KRW 11 trillion.

In 2015, the online game market will grow by 2.6% over the previous year, creating sales of KRW 5.6847 trillion and thus cementing its position as the largest platform in the domestic market. With blockbusters to be launched between late 2015 and 2017, online games are expected to continue their growth, which, however, will not be strong enough to turn the tide around. In 2016 and 2017, they will grow as low as 2% annually, barely reaching the KRW 6 trillion mark.

The mobile game market will continue to maintain its strong growth momentum, as blockbusters are launched continuously and they still have to fully mature as a genre. In 2015, it will become a KRW 3.5916 trillion market by growing 23.3% over the previous year. From 2016 onward, however, the mobile market will likely exhibit sluggish growth with just 10+%.

| Table 1 | Korean game market: size and prospect (2013-2017)

(In KRW 100 million)

	2013		2014		2015(E)		2016(E)		2017(E)	
	Revenue	Growth	Revenue	Growth	Revenue	Growth	Revenue	Growth	Revenue	Growth
Online games	54,523	-19.6%	55,425	1.7%	56,847	2.6%	58,141	2.3%	59,261	1.9%
Mobile games	23,277	190.0%	29,136	25.2%	35,916	23.3%	39,708	10.6%	44,028	10.8%
Video games	936	-41.8%	1,598	70.7%	1,758	10.0%	1,706	-3.0%	1,630	-4.5%
PC games	380	-44.1%	337	-11.3%	394	16.9%	530	34.5%	470	-11.3%
Arcade games	825	4.3%	528	-35.9%	450	-14.8%	439	-2.4%	400	-6.6%
PC rooms	16,618	-7.3%	12,277	-26.1%	10,029	-18.3%	9,429	-6.0%	8,922	-5.4%
Arcades	639	-3.9%	405	-36.6%	394	-2.7%	384	-2.5%	370	-1.0%
Total	97,198	-0.3%	99,706	2.6%	105,788	6.1%	110,337	4.3%	115,081	4.3%

In 2015, the video game market will grow moderately thanks to the next generation gaming consoles launched in 2014, but will start shrinking again in 2016. Video games are not likely to make any meaningful turnaround in the foreseeable future as the effect of their new consoles has already started to wane and their attractiveness as a platform is also losing ground.

For the PC game market, *StarCraft II: Legacy of the Void*, the last expansion pack slated for November, 2015, will make a positive impact on the market. The pack will provide the fuel for the market to stay strong until 2016, after which the market will start to shrink due to lack of blockbuster packages and the stagnancy of *Steam*.

Failing to find any opportunity for turnaround, the arcade game market will continue to contract until 2017 when the size will become a mere KRW 40 billion. It is facing slow domestic demand and lacks any major issues. Even the launch of *Tekken 7* in the first half of 2015 only made marginal impact on the market. This suggests that the arcade market has reached a point of recession where intermittent launches of new versions of existing blockbusters can hardly support any momentum for its rebound.

Game distribution channels including PC rooms and arcades will continue to contract without any special grow factors.

1.3 Exports and imports

Exports of Korean game industry in 2014 amounted to USD 2.97383 billion (or KRW 3.1321 trillion when converted at an annualized average exchange rate of KRW 1,053.21 per USD 1.00 for 2014), up 9.5% from the previous year. Imports for the same year amounted to USD 165.56 million (or KRW 174.4 billion), down 3.87% from the previous year.

| **Table 2** | Korean game industry: exports and prospects (2009-2015)

(In USD 1,000)

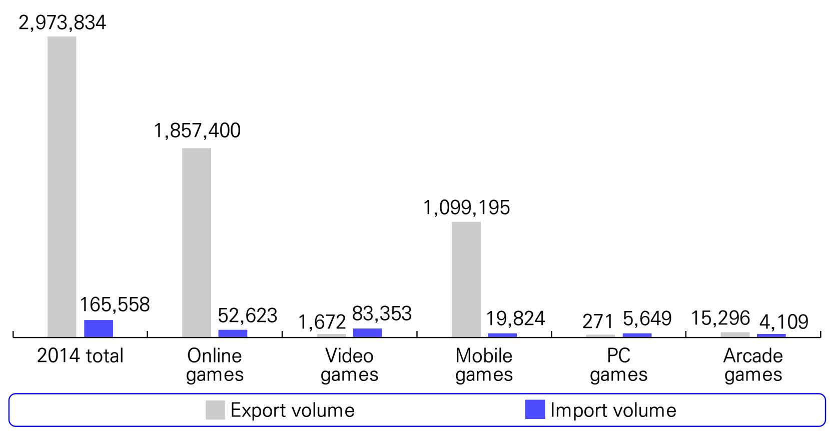
	2009	2010	2011	2012	2013	2014	2015(E)
Export	1,240,856	1,606,102	2,378,078	2,638,916	2,715,400	2,973,834	3,179,248
Change (%)	13.4	29.4	48.1	11.0	2.9	9.5	6.9

By platform, online games held the largest share of exports, with USD 1.8574 billion, followed by mobile games with USD 1.0992 billion. The export of online games in 2014 shrank by USD 588.49 million from USD 2.44589 billion in 2013, while that of mobile games increased by USD 876.58 million from USD 222.62 million in 2013.

Looking at imports by platform reveals that online games top the list with USD 52.62 million, up USD 4.86 million from 2013. Imports of mobile games also increased in 2014 to USD 19.82 million, up USD 10.51 million from 2013.

| Figure 3 | Export and import volumes by platform

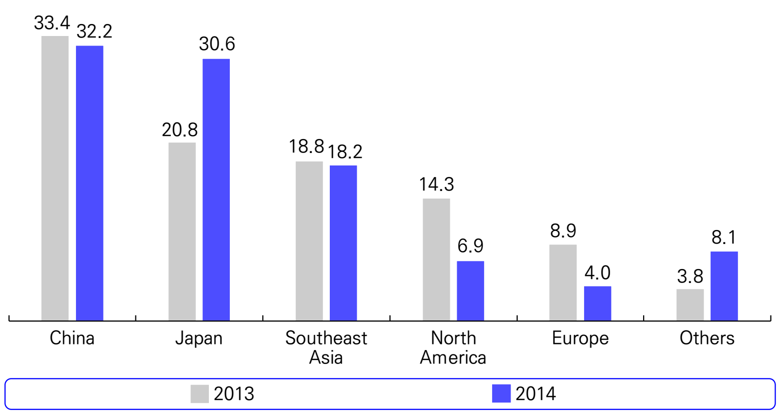
(In USD 1,000)



The primary destinations for Korean games were China and Japan, each accounting for 32.2% and 30.6%, respectively, followed by Southeast Asia (18.2%), North America (6.9%) and Europe (4.0%). Compared to 2013, Japan increased its share, up 9.8% from 20.8% of 2013, while North America lost the share of 7.4% from the previous year's 14.3%, and Europe dropped by 4.9% from 8.9% in 2013.

| Figure 4 | Export shares for Korean games by destination (2013/2014)

(In %)



By platform, the largest export destination for Korean online games in 2014 was China which accounted for 24.8% of the total, followed by Japan (19.4%), Europe (16.3%) and North America (15.7%). Compared to 2013, the shares of exports to North America and Europe increased by 11.8% and 9.7%, respectively, while the shares of export to China, Japan, and Southeast Asian region decreased by 18.2%, 7.3% and 4.1%, respectively.

As for mobile games, the largest export destination in 2014 was China which accounted for 31.6% of the total, followed by Japan (19.8%), North America (16.4%) and Southeast Asia (11.8%). Compared to 2013, exports of mobile games to Europe increased by 7.2% from 2.6%, while the share of exports to Southeast Asian region dropped by 10.8% from 2013's 22.6%.

1.4 Position of Korea in the global game market

As for the sales revenue in 2014, the Korean game market with USD 8.31 billion accounted for 6.7% of the global market with USD 123.445 billion. This figure, which was up 0.4% from 2013 when the share was 6.3%, reflects the domestic market's notable turnaround from the contraction in the previous year.

By platform, the Korean online game market had a share of 19.1% in the global online game market, ranking second following China. The figure was down 2.2% from 2013 when the share was 21.3%. The gap with China was narrower though, as its share in the global online game market reduced from over half (53.2%) in 2013 to below half (49.0%) in 2014.

In contrast, the share of Korean mobile game market expanded in the global market. With 14.3%, up 2.7% from 11.6% of the previous year, it maintained second place after Japan in 2014 as in 2013. The growth momentum, however, proved to be much weaker in 2014, in light of the over 200% growth in 2013 from the previous year's share of 5.1%.

The presence of other platform markets of Korea in the global arena was still very small in 2014 as they were in 2013. The only notable aspect was that PC games held a share of 0.6% relative to the global market, compared to video games (0.3%) and arcade games (0.3%).

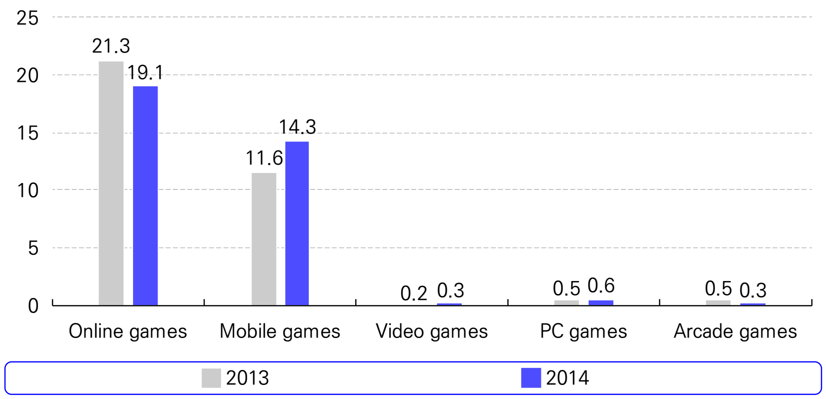
| Table 3 | Shares of Korean game markets in the global markets in 2014 (by sales)

(In USD million)

Platform	Online games	Mobile games	Video games	PC games	Arcade games	Total
Global game markets	27,587	19,343	45,177	5,438	25,899	123,445
Korean game markets	5,262	2,766	152	32	89	8,301
Share (%)	19.1	14.3	0.3	0.6	0.3	6.7

| Figure 5 | Changes in the shares of Korean game markets in the global markets (2013 & 2014, by sales)

(In %)



1.5 Employment by the game industry

In 2014, there were 834 active game development and publishing companies in Korea. With regards to distribution and consumption of games, there were 13,146 PC rooms and 460 arcades. The total number of people involved in the entire game industry in 2014 was 87,281. Those involved in developing and publishing were 39,221 combined, which accounts for 44.9% of the total involved in the entire game industry, while those involved in the distribution and consumption were 48,060, or 55.1%.

The total number of people involved in game development or publishing decreased by 3.3% in 2014: The number of employees in mobile games and PC games increased (by 10.5% and 62.0%, respectively) while the number in online games, video games and arcade games decreased (by 7.7%, 6.7% and 3.8%, respectively). Those whose work was related to distribution and consumption of games decreased by 6.4% from the previous year: PC rooms employed 6.6% fewer people while arcades employed 6.9% more.

Table 4 | Number of people involved in the game industry (2012–2014)

(In persons)

Year	2012	2013	2014	2013–2014 Change (%)	2012–2014 Annual average Change (%)	Share (%)
Game development and publishing	52,466	40,541	39,221	-3.3	-13.5	44.9
Game distribution and consumption	42,585	51,352	48,060	-6.4	6.2	55.1
Total	95,051	91,893	87,281	-5.0	-4.2	100.0

The total of those involved in game development and publishing decreased for two years in a row from 2013 to 2014, and such decrease will continue for the foreseeable future due to lack of any prospective momentum for turnaround. In 2014, the average number of employees per company in game production and publishing was 50.50, up 0.5 from 2013 when the figure was 50.0. Such an increase can be attributable to higher demand of manpower in such areas as development, design and marketing.

By job, those involved in 'development', including game producing, game development and planning, server and client development, game audio and video development, technical support, quality assurance and engine development, occupy the largest share, accounting for 45.5%. They are followed by: those involved in 'design' including concept art, user interface, character conceptualization, web and graphic design and animation, accounting for 27.3%; those involved in 'marketing/sales' including marketing, public relations, user experience, and web services, accounting for 14.0%; those involved in 'services' including service operation, game master and customer service, accounting for 7.7%; and those involved in 'systems' including computing and OA, network and security, accounting for 5.5%.

Game development and distribution fields employed 3.7 times as many male workers as female ones, with the former accounting for 78.9% while the latter for 21.1%.

1.6 Global game market

The global game market in 2014 had revenues of USD 123.445 billion, up 5.9% from 2013. Compared to the previous year, the most notable aspect is the video game segment. It succeeded in rebounding from a negative growth of -2.4% in the previous year, reporting a growth of 4.5% to record revenues of USD 45.177 billion. Such rebound was made possible by the mega hits of the 8th generation video game consoles launched in late 2013 and afterwards, including PlayStation 4 and Xbox One, coupled with the continued strong sales of titles for existing consoles such as PlayStation 3, Xbox 360 and Nintendo 3DS. Despite the weakening of the retail market resulting from more users purchasing online, the video game market is projected to keep growing until 2017 as the popularity of the 8th generation video game consoles lead to stronger sales of titles for them.

The arcade game segment did better than 2013, expanding by 0.8% in 2014 to have revenues of USD 25.899 billion. Major drivers include the thriving of multiplex game centers, roll-out of virtual reality game devices, higher potential for network games like *Tekken 7* to become e-sports and higher revenues among Chinese arcade game producers. Such growth is temporary, however, and the arcade game market will remain stagnant from 2015 and onward. The chance of arcade games to return to their glorious days of old seems small as mobile games continue to grow, video games powered by the 8th generation consoles have started to regain their popularity, and arcade game centers have lost their leadership in providing spaces for play and fun.

The online game market had revenues of USD 27.587 billion, up 9.4% over the previous year, which is the second highest growth rate after the mobile game market. The thriving of social network games and casual games contributed greatly to the expansion of the user base and growth of the market. Other drivers include the greater availability of broadband connections, increased online purchases and the successful proliferation of freemium. Such strong growth momentum, however, is projected to start waning in 2015 as the Asian market, which accounts for 80% of the entire online game market, begins to stabilize by that time.

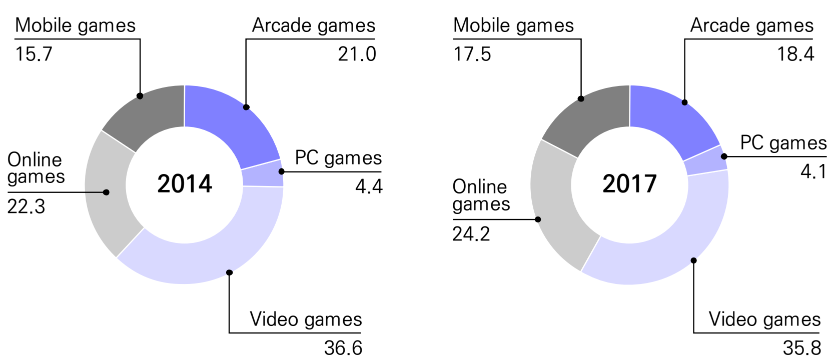
The mobile game market reported revenues of USD 19.343 billion in 2014, up 12.4% from the previous year, showing higher growth than any other market segment. Key drivers include the serial launches of high-performance smartphones and tablet PCs, the advancement in network technologies including 4G and the greater availability of user-friendly platforms like app stores. The emergence of role playing games and simulation games featuring sophisticated graphics that go beyond mere puzzle or board games that were dominant in the initial stage will provide fuel for the market to keep growing well into the foreseeable future.

The global PC game market expanded by 4.2% over the previous year to have revenues of USD 5.438 billion in 2014 after two consecutive years of negative growth (-22.8% in 2012 and -0.2% in 2013). This can be attributable to the continued popularity of PC online game packages in North America and Europe, where broadband connections have yet to be adopted more widely and offline retail is still comfortable among consumers, as well as some emerging markets. In addition, more advanced accessories that transcend joysticks in terms of game immersion such as Oculus Rift and Virtualizer are another catalyst for the growth of PC games. The growth, however, is projected to start slowing in 2015 again due to challenges facing the market, including the migration to online games offering differentiated experiences and network play and prevalent pirates.

Video games had the largest share in the global game market in 2014. Taking up USD 45.177 billion out of the total USD 123.445 billion, the video game market accounted for 36.6%, or over one-third of the total. One notable aspect of the global market share by platform is that online games occupied the second highest market share over arcade games in 2014 for the first time. The market share of online games was 22.3% while that of arcade games was 21.0%. Mobile games, despite their remarkable growth, held a share of 15.7%. The smallest occupier was PC games with a mere 4.4% share. Video games are expected to retain their largest share heading into 2017, but slightly reduced share compared to 2014 (36.6% to 35.8%). The gap between online games and arcade games, whose rankings were reversed in 2014, will become greater by 2017. Mobile games will continue to grow to have an increased share of 17.5% by 2017 compared to 15.7% in 2014. The share of PC games will be more or less stagnant, accounting for 4.1% in 2017 compared to 4.4% in 2014.

| **Figure 6** | Global game market share by platform (2014 vs. 2017)

(In %)

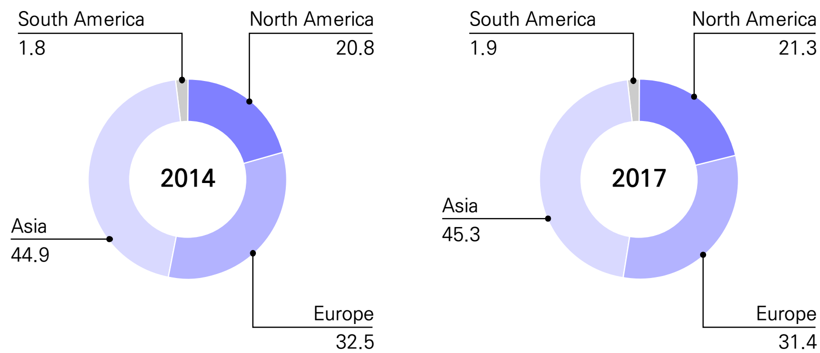


Source: *PWC* 2015; *Enterbrain* 2015; *JOGA* 2015; *iResearch* 2015; *Playmeter* 2015; *DFC* 2014; *Jamma* 2015

In the global game market, the shares of Asia, North America and South America are expected to increase while that of Europe will decrease. The share of the Asian market was 44.9 in 2014 and will account for as much as 45.3% by 2017, powered by China where online games are strong, Japan where mobile games are dominant and Korea where online games are strong and mobile games are emerging rapidly. North America and South America will also increase their shares to 21.3% and 1.9%, respectively, by 2017, thanks to their vibrant video game market. Europe, in contrast, is expected to lose its share despite its expanding video game market due to, among other things, its contracting arcade & PC game markets.

| **Figure 7** | Global game market share by region (2014 vs. 2017)

(In %)



Source: *PWC* 2015; *Enterbrain* 2015; *JOGA* 2015; *iResearch* 2015; *Playmeter* 2015; *DFC* 2014; *Jamma* 2015

2. Top 10 news in the Korean game industry

The Korea Creative Content Agency has identified 10 major news that had an impact on the Korean game industry between 2014 and the first half of 2015 based on a survey of key stakeholders from the industry, government and academia.

Of the 10 news, four concern mobile games, occupying the largest share, while in contrast, online games occupy three of them. This suggests that the center of gravity of the game market has now moved from online games to mobile games. Other two issues on a game association and e-sports, respectively, actually pertain to the establishment of the Korea Mobile Game Association and the expansion of e-sports into mobile games. Even the events on online games deal with changes and movements that are happening in the online game industry in response to the strong mobile game industry. This means that almost all the events are eventually related to mobile games. The absolute share of mobile game-related events tells us that mobile games, which have grown rapidly within a short period of time, are now considered the most significant determinant of the future of the Korean game industry.

In contrast, events related to regulations have dramatically reduced their presence in the list this time. This is even half the counts included in the same list for 2013 to the first half of 2014, which can be largely attributable to efforts by the government and the industry to push for promotion rather than regulations.

2.1 Increasingly fierce competition in the mobile platform

In the first half of 2015, Kakao Game, which had led the boom in smartphone gaming in Korea, experienced a notably weakened performance. Kakao Game, which uses the database of KakaoTalk to expand its user base, has garnered a wide variety of hit titles based on such fun factors like adding friends and score competition. Over time, the overly diversified games offered on Kakao Game started to reduce traffic to individual games, resulting in fewer hits on the platform. Still, Kakao Game charged a high level of fees, which led game publishers to start seeking alternative channels.

More and more blockbusters now choose to use their own or other platforms for launching and offering services for some time before expanding to Kakao Game to attract an additional user base. This has caused Kakao Game to lose its position as a leading platform.

With Kakao Game waning dominance, mobile game producers have started to accumulate their user data base using their own brands. While publishing-focused platforms similar to Kakao Game, such as With Band and With AfreecaTV, have failed to attract gamers, more and more game producers of popular mobile games chose to launch new titles through their own platforms. Notable examples include Hive, the global one-build platform of Gamevil and Com2us, and Chef of Eyedentity Mobile (formerly Actoz Games).

There are also many other emerging platforms, and among them is Naver Store. It has adopted a quasi-pay content system by giving credits to users who download games from it which can be redeemed for items for such games. The big success of *Raven* and *Angel Stone* 'with Naver' has also provided fuel for Naver Store's rapid growth. 'with Naver' is actually not a mobile platform, but a brand marketing strategy. Therefore, games released through 'with Naver' are free to be launched in other markets.

2.2 Controversy over regulations on mystery boxes

One of the biggest controversies concerning the game industry in the first half of 2015 involved the regulations over mystery boxes. A mystery box in a game is a kind of item that you can obtain after completion of a mission or purchase, but do not know what it contains until you open it up. It is called a 'drawing' or a 'random box' among gamers. Mystery boxes are commonly used by many game producers to generate revenue streams because gamers tend to complete the same mission repeatedly or pay money within the game to get them until they eventually accumulate the items that they want.

Mystery boxes were not an issue until Lawmaker Jeong Woo-taek (Saenuri Party) proposed a revised bill entitled "Act on the Promotion of Game Industry" in May 2015 that would require the disclosure of what types of items can be obtained from those boxes by what probability when they are sold.

Jeong's bill received fierce resistance from the industry. The industry's reasoning was that the bill would ruin the hard won pro-game environment and bring regulations back to the industry when its members have been trying to firmly self-regulate. It may also cause reverse discrimination between local players and international players operating in Korea. Such reasoning, however, came under harsh condemnation from the public who demand the disclosure concerning mystery boxes. Some producers met the demand by disclosing probabilities for their mystery boxes. Condemnation from the public became even stronger after they learned that the Japanese Game Association discloses specific probabilities for mystery boxes offered in the country.

With the situation proving to be unfavorable, the industry represented by the Korea Internet and Digital Entertainment Association (K-IDEA) announced a more rigorous voluntary scheme to regulate mystery boxes, which was to take effect for all of its members in June. The voluntary scheme involves disclosure of information on mystery boxes offered in all titles rated for teens in addition to those rated for all ages. It also requires disclosure of what types of items can be obtained from mystery boxes by what probabilities.

Some point out that K-IDEA's scheme is only marginally effective because it is not binding upon its members not to mention non-members and does not apply to titles rated for adults. In addition, it does not apply to non-members of the association. The scheme, however, is the first time for the industry to ever take action on a voluntary basis. For now, it is considered to be effective to some degree as top ranking games in the mobile game chart are following the provisions of the scheme.

2.3 Blockbusters released in the online game market after 3 years

The Korean online game market is vibrant once again after a prolonged recession due to a lack of new blockbusters and the shift of interest to mobile games. Many expected that another golden age would start for the online game market when *Diablo 3*, *Blade and Soul* and *FIFA Online 3* were released in May, June and December 2012, respectively, followed by *ArcheAge* and *The Ruler of the Land Online 2* in January and February of 2013.

The market, however, took a downturn when *ArcheAge* and *The Ruler of the Land Online 2* proved to fall short of expectations. In addition, the center of gravity of the entire game market started to shift towards mobile games, eventually pushing the online game market into a dark age. In fact, no single, media-catching blockbuster was ever launched in the Korean online game market for 2.5 years between the first quarter of 2013 and the first half of 2015. There were a handful of titles launched in 2014, including *Hearthstone*, *Icarus* and *Black Desert*, which all turned out to be of high quality, but did not gain as much in popularity as the blockbusters launched before them.

The industry agrees that a market-changing blockbuster appears every three years. Though this 'three-year cycle' theory has never been tested, major online games coincidentally started to become unveiled in the second half of 2015.

The first in line is *MapleStory 2* from Nexon Korea. *MapleStory 2* is the successor to *MapleStory*, a casual game so popular in Korea that it acquired a nickname of being a 'national game'. *MapleStory 2* turned out to have a greater impact on the market than its original and its initial popularity was awesome. Right after its launch on July 14, 2015, the title ranked fourth in the PC room popularity chart (issued by *Gametrics*). It was the first time in years for any newly launched title to be included in the top 5. Although it subsequently slid down to 11th (as of August 26), its initial performance was strong enough to provide momentum for the online game market that had been stagnant due to the rapid emergence of mobile games and the oligopolistic grip that the *League of Legends* had on it.

MapleStory 2 was followed by two other blockbusters — *Final Fantasy 14* and *Asker* — in August. There are more in the pipeline slated for this year, including *Sudden Attack 2*, *Redstone 2*, *Bless*, *World of Warships* and *Tree of Savior*.

Blockbusters will continue to be unveiled in the months to come. Specifically, NCsoft's much expected *MXM* has finished its closed beta test (CBT). Other blockbusters scheduled to begin testing within 2015 include *Lineage Eternal*, *Ghost in the Shell Online*, *Peria Chronicles* and *Lost Ark*.

The industry expects that the scheduled stream of new blockbusters will follow the steps of *MapleStory 2* and eventually change the landscape of the Korean online game market. Some bright prospects even say that the market will enter another golden age because these are all blockbusters that have not been seen for years, and the big 4 — Nexon, NCsoft, Neowiz Games and Smilegate — are fully geared for the launch of new titles.

2.4 Online games being sold, and traditional producers seeking ways to survive

More and more online game producers are abandoning their online business as the Korean game industry shifts towards mobile games. This is triggering some unprecedented events that even popular online games including one of once top ten titles are being sold.

Some producers give up their entire online businesses to go mobile while others maintain their online game business to a minimum and instead expand to areas completely unrelated to games such as Fintech. Examples include Liveplex and AfreecaTV who withdrew from the online game market. Listed on KOSDAQ, both decided to discontinue their game businesses in 2014.

There are others who gave up both online game operations and publishing. Among them are Wemade Entertainment, Joycity and Ntreev. Technically, they are not completely out of the online game business in that they still maintain the organization for online game development and overseas operations. Such a stance, however, is no different than merely withdrawing from the industry because they no longer serve the domestic market, the core of their online game business.

Wemade Entertainment, which is listed on KOSDAQ and once had earned annual revenue of over KRW 100 billion, sold all of their flagship online games, including *Icarus*, *The Legend of Mir 2* and *The Legend of Mir 3*, to YD Online. The combined annual sales from the three titles were once over KRW 20 billion, a figure comparable to that of a medium-sized enterprise.

Joycity and Ntreev assigned the rights to offer their five steady selling online games — *Pro Baseball Manager*, *MVP Baseball Online*, *Freestyle*, *Freestyle 2* and *PangYa* — to Smilegate Megaport. Earlier, AfreecaTV sold its *Tales Runner*, an online game that had been popular for a long time, to Smilegate Megaport when it withdrew from the game business in 2014. As a result, Smilegate Megaport emerged as a portal offering six steady selling games.

Another notable event is NHN Entertainment's drastic reduction in the scope of its online game services. NHN Entertainment used to be one of the big three online game firms. After its spinoff from Naver, NHN Entertainment decided to discontinue its publishing of online games and expand into mobile games and areas unrelated to games including Fintech and security. Netmarble, one of the top 5 online game firms, also eventually withdrew from the online game business and succeeded in transforming into a leading mobile game firm under a new corporate name Netmarble Games. IMI, another leading game firm, also withdrew from the online game market.

2.5 Scale-up of mobile games and their competition in advertising and marketing

Initially, the mainstream players in the smartphone game market were casual games such as *Anipang* and *Dragon Flight*. Mobile games are getting even larger in scale as the market becomes mature and smartphones are ever more powerful.

The great success of *Blade* marked the onset of middle core RPGs that feature graphics, actions and progress through PvP (player vs. player) and quests comparable to those of online games. Their period and cost of development are also comparable to those of their online counterparts.

The growth of the mobile game market has brought with it some of the marketing strategies that have been applied for online games. Among them are pre-order and closed beta testing (CBT). Pre-order is a good way of securing traffic to a game soon to be released by regularly providing those who placed a pre-order with information on the game prior to launch, and offering special items to be used after launch exclusively for them. CBT provides a good opportunity for the game company to get feedback from the testers and measure the game's playability, while catching users' attention.

On the marketing front, the successful, large-scale campaign conducted for *Clash of Clans* made other game companies follow suit to use TV, subways, buses and more. Television, in particular, has become a major medium of advertising for mobile games. This suggests that mobile games are no longer something for a certain group of people only, but now part of mainstream culture.

Marketing campaigns among competitors heated up and often crossed the line. For example, when *Monster Taming* (by Netmarble Games) was offering an event where seven star characters are available, *Legendary Shock Troopers* (by NHN Entertainment) ran ads in subway cars, saying among other things "You keep saying seven stars, but they aren't free, are they?" and "You're such a monster, always talking me into paying cash for items", which could remind viewers of a particular game. Similarly, when *Raven* (by Netmarble Games) was gaining in popularity by featuring actor Cha Seung-won in its ad, *Nantu* (by Kunlun Korea) aired a similar ad featuring actor Jeong Woo-seong.

2.6 Stronger presence of foreign titles in the mobile game market

After the mega hit of *Clash of Clans* in 2014, titles originating from outside Korea started to have stronger presence in the Korean market. *Clash of Clans*, which was initially launched in 2013 but had remained as an underdog for almost a year, topped the sales ranking by spending KRW 10 billion on marketing. After the success of the game, resistance among gamers against foreign originated games is waning.

Subsequently, *Candy Crush Saga*, a match-three puzzle game from KingDotCom, generated great success, and its follow-up, *Candy Crush Soda* used the members of *Muhan-dojeon*, a popular TV show, in its ads. By having the members do both advertising and playing the game, *Candy Crush Soda* could achieve both higher awareness and commercial success.

The rapid growth of Chinese games is also noteworthy. Mobile games from China used to be considered inferior to their Korean counterparts. In fact, few of them were successful in the Korean market. The rapid expansion of the Chinese mobile game market, however, started to reduce the gap. Then came Gaea Mobile's *Dotop Story* in 2014, which later turned out to be a huge success. This game triggered the release of a series of similar games featuring defense, character growth and items, which also gained in great popularity among users. Chinese game companies now have development capabilities comparable to their Korean competitors, and are benefited from a vast domestic market coupled with human resources absorbed from Korean mobile game companies. In addition, resistance among Korean users against Chinese games are waning. All these will turn out to Chinese players' advantage in expanding in the Korean market.

Meanwhile, more and more Korean game companies are involved in the publishing of foreign originated titles. Among them is Nexon that published *Top of Tanker* developed by a Chinese company. It also published and announced large-scale marketing of *DomiNations* developed by Big Huge Games, which had been downloaded over 10 million times in North America, Europe and others combined. Popular foreign titles of quality content are more likely to be published in the domestic market.

2.7 Mobile game companies going for Global One Build strategy for exports

More and more game companies are looking to international markets as the local mobile game market is increasingly saturated and dominated by large scale players such as Netmarble, Four33 and Nexon. Medium-sized game firms are seeking ways to secure both user data base and success of their games by adopting the Global One Build strategy, where games launched in the Korean market are released in international markets through localization so that local and international users can play them together.

One notable example is Hive, a joint global platform of Com2us and Gamevil. The two companies reported good performance from *Kritika*, *Dark Avenger 2* and *Elune Saga* that were offered via the global platform during the first quarter of 2015. Gamevil and Com2us have been engaged in the global mobile game market and improving their awareness by launching a series of popular games since they established subsidiaries in the U.S.A, China, Japan and others since the early 2000's. Based on such improved awareness, they succeeded in creating a virtuous circle where new users naturally engage in cross-promotion through Hive.

NHN Entertainment is another to adopt Global One Build strategy based on its own brand Toast. Its *Crusaders Quest* was highly acclaimed in the global market, with over 70% of its sales being generated outside of Korea. *The Soul*, launched in the first half of 2015, adopted a 'soft launch' strategy in which a game is released into a country without any promotional events. The game will be gradually released over 140 countries after understanding the characteristics of gamers.

On April 30, 2015, Netmarble Games launched *Marvel Future Fight* featuring globally-renowned *Marvel* heroes in 148 countries at the same time. As a result, the game was later included in lists of top 10 games in 118 countries. Such huge popularity allowed Netmarble Games to realize overseas mobile game sale revenues of KRW 26.4 billion in the second quarter of 2015.

Nexon also entered the fray by launching two games — DevCat Studio's *Mabinogi Duel* and Nexon GT's *Super Fantasy War* — in both domestic and international markets at the same time to refine its skills concerning mobile game service.

2.8 Korean online games' IP welcomed in the global market

As mobile games and web games based on intellectual property (IP) of Korean online games are achieving great success in China, Korean online games of the past are drawing attention anew.

The web game *The Great Angel's Sword* and the mobile game *Miracle*, both of which are based on the IP of *Mu Online* developed by the Korean firm Webzen, gained in huge popularity in the Chinese market in 2014. Reportedly, *The Great Angel's Sword* generated CNY 100 million (or KRW 17.2 billion) in the first month of the launch alone, and *Miracle* has been maintaining monthly sales of CNY 200 million (KRW 34.4 billion) since its launch. Webzen receives 5 to 10% of the sales in the form of royalties, merely for providing its IP.

This trend continues in 2015. *The Legend of Mir 2*, a flagship title of Wemade Entertainment, was revived as a mobile game in China and proved to be a big hit. *Mir Mobile*, the mobile version of *The Legend of Mir 2*, was officially launched on August 3, 2015 after two closed beta tests during the first half of 2015 through Tencent Open Platform by the major Chinese web portal that also features a game subsidiary. It turned out to be a huge success: it took 6th place in the sales ranking of Chinese Apple App Store on the very day of launching and soon topped the ranking. *Mir Mobile*, in particular, took only 10 days to break the daily sales record of KRW 5 billion made by a single game held by *Fantasy Westward Journey*.

Stock market watchers in Korea forecast the second quarter sales of *Mir Mobile* to be a minimum of KRW 400 billion based on the Q2 earnings of NetEase, the publisher of the game in China. This means that a super successful mobile game generating KRW 1.2 trillion in China alone is based on a Korean online game. Market watchers estimate that Wemade Entertainment, the IP holder of the mobile game, receives around 5% of the total Chinese sales in the form of royalties, which brings the company approximately KRW 100 billion per year.

It is predicted that more Chinese game companies will utilize IPs of Korean online games to convert them into mobile versions. Those in the pipeline as of August 2015 include *Cabal Online*, *The Ruler of the Land* and *Ragnarok*.

Mgame is working with U-run Tech of China to produce the web version of *The Ruler of the Land*. It is being designed into different genres including action RPG and MMORPG, with the former to be launched first.

ESTsoft entered into an agreement with Changyou of China on the development of the mobile version of *Cabal 2*. Earlier in November 2014, it also agreed with Changyou to jointly develop the mobile version of *Cabal Online*. The web version of *Cabal Online* is soon to be launched as well in association with 37WAN.

Gravity also concluded a deal with The Dream Network of Shanghai in January 2015 to develop the mobile version of *Ragnarok*. Though Gravity already launched mobile games utilizing *Ragnarok* in the market, this is the company's first time to work with a Chinese company to produce the mobile version of the game that specifically targets the local market.

2.9 Two game organizations

One of the most important events concerning the game industry was the foundation of the Korea Mobile Game Association in addition to the existing Korea Internet & Digital Entertainment Association.

Founded after spinning off from the Korea Wireless Internet Content Association, which encompassed four contents associations of games, cartoons, music and publication, the Korea Mobile Game Association represents small- and medium-sized mobile game companies with a goal of helping revitalize the Korean game industry. It will focus on making the voices of small- and medium-sized developers better heard, which could not be done by the existing association.

Some of its notable activities since its foundation include the organization of Good Game Show Korea 2015, showcasing sound and educational games and the Conference on Korea-China Cooperation in Mobile Content where major Chinese game companies including Baidu, Qihoo 360, Chukong, Shanda Games, Giant and NetEase participated.

Meanwhile, Kang Shin-cheol, the new president of the Korea Internet & Digital Entertainment Association, said soon after his inauguration that the game show G-STAR would be transformed to reflect the shift of power in the Korean game market towards mobile games in order to provide more fun factors for visitors and attract international game companies. He also declared the stabilization of the voluntary regulatory scheme on mystery boxes to be one of his top priorities.

The two associations signed an agreement toward mutual cooperation in June 2015 and agreed to work together for the development of the game industry through various joint projects regarding policies and regulations related to games.

2.10 E-sport fever: hosting of a global competition and thriving of mobile games

E-sports, which originated in Korea, is growing rapidly and being globalized on expanding platforms.

Riot Games excited gamers all around the world by hosting the Mid-Season Invitational, a new global e-sport event involving top *League of Legends* teams, at the Civic Center of Florida State University, Florida, U.S.A. The fifth League of Legends World Championship will be held in Germany in October, 2015, which will help maintain the e-sports fever.

In Korea, the Korea e-Sports Association hosted League of Legends KeSPA Cup to provide new opportunities for professional players and new fun factors for fans. Nexon hosted Kartrider League Evolution and FIFA Online 3 Championship while Blizzard Entertainment hosted Heroes of the Storm Super League, contributing to the diversifying range of e-sports available.

One of the most noteworthy trends in e-sports in 2015 is the expansion of e-sports over PC online games to mobile games. In fact, such mobile games as *Vainglory* of Super Evil Megacorp and *Hearthstone* of Blizzard Entertainment were newly included in the e-sports docket. Nexon, among other major players, launched an M Sport Project to promote mobile games as part of e-sports. It claims that mobile devices are a platform as good as PCs for e-sports, stating that mobile games over 12 to 20 months old account for 16% of the total games played in e-sports, of which PvP content takes up 73%.

Meanwhile, the ever broader adoption of smartphones coupled with applications enabling the viewing of live events also contributes greatly to the growth of e-sports.

3. User survey

3.1 Overview

A survey of game users was conducted from May 27 to June 2, 2015, involving 1,500 men and women who had ever used a game. A professional research firm selected a population at the age of 10 to 59 out of 1.07 million people in the firm's database. Those at the age of 13 to 59 in the population were surveyed online while those at the age of 10 to 12 were interviewed individually to ensure their accurate understanding of the questions.

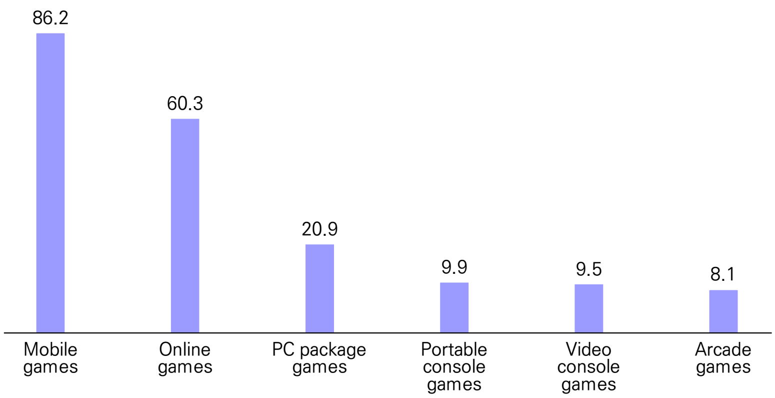
3.2 Key findings

The most widely used games at present were mobile games (86.2%), followed by online games (60.3%), package games for PCs (20.9%), portable console games (9.9%), video console games (9.5%) and arcade games (8.1%)(based on multiple choices).

As for the share by platform, mobile games claimed the majority of the respondents with 59.1%, followed by online games (30.0%), PC package games (6.1%), portable console games (1.8%), video console games (1.7%) and arcade games (1.3%).

| Figure 8 | Game use (based on multiple choices)

(In %, n=1500)



The purposes of gaming for the respondents varied depending on the platforms. Online games are most frequently used for 'Stress release' (75.4%) and then 'For fun' (64.7%). Mobile games, in contrast, are most frequently used for 'Killing time' (61.6%) and then 'For their convenience to be played anywhere and at anytime' (52.0%). While the share of 'Stress release' is relatively low (39.1%). Package games have similar purposes of use as online games. They are most frequently used for 'Stress release' (77.0%) and then 'For fun' (68.1%). Video console games are also most frequently used for 'Stress release' (64.3%) and then 'For fun' (52.4%). Portable console games are most frequently used 'For their convenience to be played anywhere and at any time' (44.6), which duly reflects their portability. Arcade games are most frequently used 'For fun', which makes them differentiated from other platform games.

As for the daily average amount of time spent on gaming by platform, online games topped the ranking with 95 minutes during weekdays and 144 minutes during the weekends. The next was mobile games with 75 minutes on weekdays and 94 minutes during weekend. For other platform games, the daily average amount of time spent was 50 minutes maximum on weekdays and 74 minutes maximum during the weekends. (For package games, it consists of 50 minutes on weekdays and 74 minutes during the weekends; for video console games, 37 minutes and 72 minutes; for portable console games, 39 minutes and 58 minutes; and for arcade games, 30 minutes and 44 minutes.)

The average period of time for which a single game is enjoyed was 10.4 months for online games, 7.9 months for video console games, 7.1 months for portable console games and 7.0 months for package games. The average period was the shortest for mobile games with 14.7 weeks (or approximately 3 to 4 months).

3.3 Characteristics of game use by platform

3.3.1 Characteristics of online game use

In the survey, 60.3% of the respondents answered they used an online game. The daily average amount of time spent on online gaming was 95 minutes on weekdays and 144 minutes during the weekends. The number of online games actually played among those downloaded was 3.2, and 1.9 of them are played frequently. The average period of time for which a single online game is enjoyed was 10.4 months.

As for the expenses for using games, 51.5% of the online game users paid extra charges besides those for communication and data while 48.5% enjoyed online games free of charge. Of those who paid extra charges (n=466), 76.2% made purchases for game money, items and others during games. The median of the total expenses incurred to those paying extra charges for games was KRW 20,000, while the median of payment during games was KRW 10,000. The most common method of payment for those paying extra charges during gaming was by 'their own credit cards' (43.2%), followed by 'coupons/gift cards' (17.8%).

The most popular online game genre was 'RPG/MMORPG/MORPG' with 29.1% (first pick), followed by 'RTS/strategy simulation' (17.0%), 'Web/board games' (14.0%), 'FPS/TPS' (10.0%) and 'Sports' (8.6%).

Online games were most frequently used for 'Stress release' (75.4%, based on multiple choices), followed by 'For fun' (64.7%), 'Socializing with friends or relatives' (33.6%) and 'Breaking records' (16.3%).

3.3.2 Characteristics of mobile game use

The survey revealed that 86.2% of the respondents used mobile games. Their most preferred device was smartphones with 96.5%, followed by tablet PCs (15.2%) and mobile phones other than smartphones (2.2%). Their most preferred source where they download mobile games was Google Play with 69.7% (based on multiple choices), followed by KakaoTalk (38.6%), Apple App Store (21.1%) and mobile carrier markets (12.9%).

Their most preferred mobile game genre was 'Games that can be played alone' with 65.5% (based on the sum of first and second picks), followed by 'Record breaking games' (63.3%), 'Life simulation games' (31.9%) and 'Combat games' (24.8%). When based on first picks by the respondents only, 'Games that can be played alone' claimed the largest share with 32.3%, followed by 'Record breaking games' (31.7%), 'Life simulation games' (18.2%), 'Combat games' (15.4%) and others (2.4%).

Mobile game users'daily average amount of time spent on mobile gaming was 75 minutes on weekdays and 94 minutes during the weekends. The number of mobile games actually used among those downloaded was 4.5, and 2.5 of them were used frequently. The average period of time for which a single online game is enjoyed was 14.7 weeks (3 to 4 months).

The most preferred mobile game genre is 'Puzzle games' with 31.8% (based on first picks only), followed by 'RPGs' (13.4%), 'Management/construction/life simulation' (10.6%), 'Web/board games' (10.2%), 'Strategy simulation' (8.4%) and 'Sport games' (6.3%).

It was found that 23.4% of the mobile game users pay extra charges besides those for communication and data while 76.6% enjoy online games free of charge. Of those who paid extra charges (n=302), 84.4% made in-game purchases. The median of the total expenses for those paying extra charges during gaming was KRW 6,750, while the median of in-game payment was KRW 5,000. The most common method of payment for paying extra charges during gaming was by 'Their own credit cards' (48.6%), followed by 'Their own mobile phones' (32.2%).

Mobile games were most frequently used 'For killing time' (61.6%, based on multiple choices), followed by 'For their convenience to be played anywhere and at any time' (52.0%), 'For stress release' (39.1%) and 'For socializing with in-game friends' (13.5%).

3.3.3 Characteristics of package game use

The survey revealed that 20.9% of the respondents used package games. Their daily average amount of time spent on package gaming was 50 minutes on weekdays and 74 minutes during the weekends. The number of package games actually used among those purchased was 3.1, and 1.9 of them were used frequently. The average period of time for which a single package game is enjoyed was 7.0 months.

Their most preferred package game genre was 'RPGs' with 33.9% (based on first picks only), followed by 'Strategy/life simulation' (24.9%), 'Sport games' (12.1%) and 'FPS/TPS games' (11.2%).

Package games are most frequently used for 'Stress release' (77.0%)(based on multiple choices), followed by 'For fun' (68.1%), 'Socializing with friends or relatives' (24.9%) and 'Breaking records'(21.1%).

3.3.4 Characteristics of video console game use

The survey reveals that 9.5% of the respondents used video console games. Their daily average amount of time spent on video console gaming is 37 minutes on weekdays and 72 minutes during the weekends. The number of video console games actually used among those purchased was 2.8, and 1.9 of them were used frequently. It was found that 24.5% of the video console game users access a network during play.

Video console games are most frequently used for 'Stress release' (64.3%, based on multiple choices), followed by 'For fun' (52.4%), 'Socializing with friends or relatives' (30.8%) and 'Breaking records' (19.6%).

Their most preferred video console game genre was 'Sport games' with 38.5% (based on first picks only), followed by 'Action/combat games' (20.3%), 'RPGs' (11.9%) and 'Shooting games' (10.5%).

3.3.5 Characteristics of portable console game use

The survey revealed that 9.9% of the respondents used portable console games. Their daily average amount of time spent on portable console gaming was 39 minutes on weekdays and 58 minutes during the weekends. The average period of time for which a single portable console game was enjoyed is 7.1 months. The number of portable console games actually used among those purchased was 3.0, and 1.9 of them were used frequently. The median of cost for purchasing portable gaming consoles was KRW 150,000, and the median of cost for purchasing titles for them was KRW 50,000.

Their most preferred portable console game genre was 'RPGs' with 26.4% (based on first picks only), followed by 'Strategy/life simulation' (16.2%), 'Racing games' (14.9%), 'Sport games' (12.2%) and 'Action/combat games' (11.4%).

Portable console games were most frequently used for 'For their convenience to be played anywhere and at anytime' (44.6%, based on multiple choices), followed by 'For fun' (43.2%), 'For killing time' (40.5%) and 'For stress release' (29.1%).

3.3.6 Characteristics of arcade game use

The survey reveals that 8.1% of the respondents used arcade games. Their daily average amount of time spent on arcade gaming was 30 minutes on weekdays and 44 minutes during the weekends. The majority (54.5%) of the arcade game users visited a game arcade once per month on average. The number of average visits per person per month was 2.6.

The median of their monthly spending on arcade gaming was KRW 5,000. The average number of games used per visit was 3.4, and 2.1 of them were frequently used.

The most preferred arcade game genre was 'Action/combat games' with 16.5% (based on first picks only), followed by 'Gun shooting games' (14.9%), 'Flying shooting games' (14.9%), 'Rhythm games' (13.2%), 'Puzzle/casual games' (12.4%) and 'Sport games' (12.4%).

Arcade games were most frequently used 'For fun' (50.4%, based on multiple choices), followed by 'For stress release' (48.8%), 'For killing time (38.8%) and 'For socializing with friends or relatives' (36.4%).