

Future route of game industry

Abstract

This paper presents an analysis on game industry. The analysis will be separate into two components of the game industry, console market and mobile market. The trend of gaming is shifting from console market to mobile market which spells trouble for the long lasting console market. Consumer interview will be use in order to understand gamers insight and how the game industry change toward the mobile market. This trend come from the strategies that only focus on capturing hard-core gamers performed by the console market, which only a partial of all gamers while the mobile market capture all gamers type. Technology and lifestyle change also have a great impact on this industry.

Introduction

Our world have become more and more digitalize each year, makes technology become a part of our daily life. Technology includes all everyday devices such as television, computer, watch and the most important device, mobile phone. We use mobile phones as an all-in-one purpose device for communication, social, music and as a portable game player.

Talking about games, gaming started in the 1950s, and become popular in the 1980s. Games come in many forms, console, PC, handheld and as an application on smartphones. In the 1980, people enjoy gaming on mainly console; the trend had changed in the 1990 as the popular handheld game device “Game Boy” launched. As the world become more digitalize, people demand an easy access to games which in the end become mobile phone games in the year 2007, the age of iPhone. The popularity of smart phones make more and more people mitigate from console game to mobile games, as the mobile games connect to the social networks and provide convenientness to the users. Famous game developers such as SEGA, activision, squar enix, etc. start to develop games for the new market which decrease new games on the console and handheld market in the future, this process might discourage console gamers and can shift them to mobile phone gamers side. These changes reflex problems in the console and handheld market as the player base start to shrink and the reduction in both consoles and games sales. Can this be the end of console and handheld games or it can eventually beat the new market and become the top of the food chain again?

Console and handheld game industry cannot rely on the same strategy anymore as the popularity of mobile gaming skyrocketed. The industry must find new methods in order to

compete in the market, it's a "do something" or "leave the market" situation and they are not giving up and try it best to be number one again.

Literature Review

Recently, there is hype on the future direction of game industry that the mobile games will dominate the whole industry.

All the big players in the industry already launch their game on mobile device both on IOS and Android platform, even Nintendo, which once announce that Smartphone games are not under their consideration. Grubb, J. (2014) critics on Nintendo decision as to test the market. Since the franchise is only partial own by the company, it is possible that they will consider widening their future player base by using the method. The increasing in the player base can boost the console sale in the future.

The gamer behavioral research of Brodzki, E., Fleischer, G., & Sarnik, K. (2010) point out that gamer behavior could be influence by critics, achievement and new games availability or DLC. Meta-critics can be found widely on the internet and on the app store itself, people who had buy and test the game will give comment to the game. Most gamers don't care about these critics much since they are solely personal preference. Game players also shift game occasionally, which affect the player base of a specific game. Mobile game usually launch hundreds of game each day which cause the fluctuation in the system, the new downloadable content(DLC) and new game will not shrink the number of gamers but it can bring back the old player for a period of time. Achievements are a common strategy use with in a game nowadays.

Gamers are usually achiever which can easily get addict to a game by trying to complete all the game achievements which is very easy to implement in to the game, especially mobile game.

People change as time passed, also the gamers. Time and convenientness are what people strive for. Since gamers cannot carry their console and handheld device with them to work or study, they are now going toward mobile game critic by Wong, R. (2012). Mobile games such as social media-connected game can be easily access form the office PC or their phone which is convenience to the player. The gamer behavior is changing from spending time with the indoor console to the more mobile device, the smartphones, to match with their new lifestyle.

There are two type of gamers, the core gamer and the casual gamer defined by Mckinsey, 2011. Core gamers are those who own a console or hardcore PC gamers while casual gamers are those who play game on mobile device. The number of casual players rises each year and is predicted to hit 191.3 million U.S. gamer in 2017, more than half of the population (Statista, 2014). The increasing in the number is from the popularity of social media, not only casual gamers are playing mobile game, core gamers also. The average of game device for a core gamer is 2. Each household have an average number of gamer of 2 per each household, which is not surprise by the increasing in mobile gamers.

The sale of consoles are dropping each year which people usually use as an argue of the end for console era. Comparing the sale of console and the mobile device (including smartphone and tablets) annually, the number of console sold look disappointing. The sale of mobile device growth roughly 30 percent annually since 2010 while the sale of console is shrinking each year researched by Graziano, D. (2012). The increasing in mobile device stat correlate with the rising number of mobile gamers. The console company revenue had decline by 11 percent in 2014 and

will reach \$41 billion in 2019 comment by Graziano, D. (2012). Brightman, J. (2013), tackles the argument and rise the fact that the mobile game company revenue will not rise fast enough to win the console market. Actually, the console and PC market is relatively healthy. The hype of the end of console era might rise from the decline in console sale. When comparing the new game for PC and console with the new DLC from mobile device, mobile device have hundreds of new DLC daily while console and PC occasionally receive new game, this come from the fact that the new console(Xbox one and Playstation4) had recently launch in the past year.

The fact that the console sale is declining combine with the mobile application integration of the big console seller company strongly bend toward the hype of mobile gaming will beat console, but the new console just launch in the 2013 which may yet to impact the console market and game developer that much.

Background of game industry

Who are the gamers? Each person has different image and understanding of the term “gamers”. People usually describe gamers as game nerd, play game all the time and sometime have anti-social personality, but for game developers, gamers are people who play and enjoy games, including those who play console games and even social media games on their desktop, laptops and mobile phone. This research will stick with the game developers’ “gamers” definition.

Mackinsey (2012) separate gamers into two type, hard-core gamers (also call high type) and casual gamers (also known as low type)

- Hard-core gamer, this type of gamer is usually a pay-to-play(P2P) player on mobile game and those who enjoy and purchase console and PC games regularly.
- Casual gamer, this type of gamer usually a free-to-play(F2P) player, they enjoy freemium games online, social media game and mobile games

Recently, the sale of game console drop at a danger rate. The sale drop 18.3% and 28.4% from year 2011 to 2012 and from 2012 to 2013 respectively (Figure 1). This drop creates the hype that it is an end of console era. Main reason that creates this situation is the decline in game piracy. Before the year 2011(before the release year of Nintendo 3DS), console games have been hacked by several companies, this situation looks bad at first but it's actually helps console manufacturers since they can sell more consoles because of the nearly cost-free for games in buyers' perspective. Piracy threaten the console game developers since they gain less profit because their game got hacked and give out like candy online for free, this also threaten console company of the future game from third-party companies. From year 2011 onward, console developers prevent piracy by encrypt complex code and gradually update console firmware to prevent piracy (all big console company do this, Nintendo, Sony and Microsoft). Now, console games are not cost-free, people with low willingness to pay(WTP) will stop buying new console and will leave the market, make the sale of console decrease at high rate compare to recent years.

While the number of gamers left console market rise, number of mobile phone gamer increase.(Figure 2) Number of mobile player increase by 44.4% since 2011 and will still increase in the future, the rate may hit 191.3 million players in U.S.A in the year 2017, that rise by 25% from 2014. The reason for such a number is the number of free games available in the mobile phone market. There are more casual gamers than hard-core gamers and mobile phone

market can catch most of them. There are a lot of factor that influence gamer (Figure 3) but the main factor is the cost of games.

This research will focus on the reasons “how can the game environment of console/handheld and mobile phone game market change into this situation and how can console/handheld market compete with the new changes in the future” by analyzing three main variables, demand(strategies use by console and mobile company that affect and shape the game market demand), technology and change in gamers lifestyle compare with the age before smartphones(2007).

Methodology

Each gamers are different from each other since they have different lift style of playing games and have different preference taste, so interview is crucial for understanding their behavior and to know how informed those gamers are about gaming industry and trends.

Thirty participants were chosen at random, holding the definition of gamers at the beginning. Some information will be excluded from this research due to the distance of the observation values (too high or too low data). Questions will be ask about consumer behavior on time spent on consuming games and mobile phone of most of the part, including the consumer understanding about game industry environment and how can the game developers improve their product in order to make their consumers more satisfy, by holding an assumption that the chosen participants reflex the overall behavior of global gamers. (View Table 1, figure 4, figure 5 and figure 6 for interview data)

Data from secondary sources are collected in form of time series. Time series is the collection of data chronically from the past; this data is used to analyse the future trends of the data and inspect what will happen in the future.

Legal form and Licensing

One part that affects demand for game is the ability to transfer games to others either through sharing, transferring or selling the license to use the product from the original buyer. The power to prevent such activity varies from one company to another but devices manufacturers compete in the same market use similar methods to do so. The more action on preventing these activities, the more demand retained for new games sold in the future.

Most games when bought, both in physical form (Disk or cassette) or software, will be affected by the law on license. There is no legal law (Both in the United States and European Union) on selling or transferring license from the original buyer to new user (First sale Doctrine) assuming that the buyer and seller are affected by the same law suit; American users sell to other Americans, stated by McDowell, (2013). The original owner has full right to use or transfer to other user as long as the original user deletes all the software before transferring the software ownership.

Digital Rights Management (DRM) is a new method used by software developers to prevent unauthorized copying and piracy. DRM tries to tie in the original buyer of the software with the software itself explained by Brightman, J. (2012) e.g. iTunes ties the purchased applications with the buyer account (All applications, movies and music), certain games only playable on the registered game console, etc. DRM is a good way to prevent resale of game (Secondary market problem) but the DRM on iTunes does not prevent account owner to splash

their account to other device since it does not stick with only one device, which make game applications DRM-free, also most console game are in physical form which usually not affect by DRM anyways.

Console games have a huge problem with the resale market than the mobile game since the mobile games have developed strategies to prevent the license violation to secure their sale which are

- DRM, even though mobile applications are DRM-free, but the user may not willing to expose or selling their account to other since their account contain personal information
- Credit card sync, accounts(exclude free account) are lock with the original user credit card information which people do not want other to know about
- Downloadable content(DLC), company occasionally launch new DLC to update their applications to increase the software performance, usually the user need the original account password to update the software on their device
- End-User License Agreement (EULA), most users will scroll down and accept the EULA without reading the content. The company may suspend the account that violate the rule, create a pressure to the user not to move their account to other device that the user does not own.

These barriers, established by the mobile companies, minimize the act of transferring software to multiple users to retain the software developer sale and give them more incentive to produce more game in the future. Console games in the other hand have minimal action on the resale of game disks. Buyers can easily find second hand game (usually feel indifferent between second

hand and a new game disk) on popular game stops and online, e.g. eBay, Amazon, etc. The more game disk are transferred, the less new game disk of the same game will be sold in the future, thus decrease the demand for new game disk, which may discourage game developer to produce more game for the console.

Price discrimination conducted in game industry

Another part that greatly affect demand is the pricing strategy that chosen by the company. Console manufacturers choose to conduct direct segmentation price discrimination (Pigou, 1932) while mobile game developer adopt the two part tariff scheme.

Direct segmentation is an act of third-degree price discrimination, the sellers set price targeting a particular attribute in order to perfectly segment their consumers. Console market know that almost all the buyers are the hard-core gamers, which usually have high willingness to pay for the game they want, hence the companies charge high price in order to swoop all the consumer surplus and turn them into their profit. At high price settled, low type and casual gamers will not have any interest in buying the product and left the market, which are not the sellers target in the first place anyways, result in the limited demand in console game.

Two-part tariff is an act of price discrimination that separate the product price into two part, the initial price(fixed fee) and price per unit(variable cost).

$$\text{Total cost} = \text{Fixed fee} + \text{Variable cost}$$

$$\text{Total cost} = P$$

$$\text{Fixed fee} = X$$

$$\text{Variable cost} = Y$$

$$\text{Mobile market} = m$$

$$\text{Console market} = c$$

Buyer must pay both parts to get full access of the product. By assuming that the consumers already own a capable device (from the interview, the minimum price for a good smart phone and a price for an estimation of console/handheld result to be a similar range of numbers, make the cost of capable device to be the same, include in Table 1), making the equation exclude the price of the device use the play the products. Sellers of mobile game will set the lowest price to catch the entire consumer in the market. Social games are dominating the mobile game industry(90% of mobile gamers play social games) which mostly are free-to-play and price appear to be zero, make the fixed fee paid by the consumer to be zero ($X_m = 0$).

All social mobile game conduct an in-app purchase tactics, offering varieties of virtual products and currency, which are optional. Players can enjoy the game more by buying an in-app purchase. This make the minimum of variable free to be zero ($Y_m = 0$) and that maximum is infinity ($Y_{mmax} = \infty$)[The amount of payment on Y yearly per user is \$24.08 or ₦732 include in figure 7].

F2P players can enjoy the game paying absolute nothing, $X + Y = 0$, which is the intension of increasing player base and boost demand for mobile games by making $X = 0$, while the company can extract the profit on the Y part, paid by the P2P players. Players are willing to pay on free games in order to achieve self-esteem needs according to Maslow hierarchy of need. Esteem need is a need to self-express to other to make other compliment or be accepted which is a common need for humanity and affect everyone, both F2P and P2P players. Extra virtual items and currency help the players to achieve those achievements set by the game developers such as perks, achievements and high score leader board competing with other players with less afford

than those F2P players. Brodzki, E., Fleischer, G., & Sarnik, K. (2010). separate gamers in to two type, the normal players and the achievers. They describe how the achievers differ from other gamers as the gamers that play all manner of games, even they are not the target audience of the game (from kids to adult games), paying to acquire all the perks within the game, especially engage more in a game which offer the faster route of doing so which is the nature of all social relate games. Achievers are draw to the mobile game and generate lots of profit on Y to the game developers.

Comparing to the console market, usually charge high X_c and charge zero Y_c . On average, X_c on console and handheld disk is 1500 Baht or \$50 with no addition of variable cost make the total cost on console game $\$50 + 0 = 50\$$. By the nature of F2P gamers whose dominate mobile game market, have no willingness to pay anything in the first place, make them move away from the console market left with a certain level of demand only from the hard-core gamer's side.

Different pricing strategy generate different amount of product demanded from the market. Console market charge high price, make casual players left the market, decrease the product demand but get high revenue from each unit sold from their segmented consumers. Mobile market charge absolute nothing catch all the attention of mobile gamers create a huge demand and expand player base for the product while offer addition payment for those achievers to achieve perks, grabbing huge amount of variable price Y_m .

Game as experience good and amount of advertising

Games are classified as experience goods; consumer will never know the quality of games before they actually play the game. These types of products are different from those hard goods that the customers know the quality before they buy the actual product. Asymmetric information on experience goods makes buyers doubt the product quality and may decide not to buy the product because of the unknown quality. Game developers must advertise their product in order to signal the quality of their product to the buyers, give a taste of the product and make them feel confident that the product is high quality and worth the price.

The amount of ads, place and quality depends on each game type and their target audiences. The better the quality on advertising incur higher cost, including mass and graphic.

High resolution graphic are vastly used to promote console game for years. Console games target hard-core gamers who are indulged by the high resolution of the game and unique play style that are usually not offered by the mobile game developers. Hard-core gamers always seek information on a specific spot on internet, e.g. the game developer website, online game spot, etc, which is where the console game ads will be promoted. Mass will not increase the demand for game at the satisfactory level compared to the cost of advertising space, so console games ads will only be available on specific spots online which save cost on making the ads mass.

Mass is a chosen strategy for mobile games since they target all audience with capable devices. Mobile game ads appear mostly on social media, e.g. Facebook, Twitter, etc., and on other games offered by the same game company. These ads will appear at the chosen moment within a game to increase player engagement on the ads rather than annoy the players themselves. Mobile companies target breakthrough moments (BTM), range of time that the

players experience range of emotion from please to frustration. MediaBrix, (2013) focus on the emotional targeting and adopt reward-driven model used in the mobile game market. Game company uses the moment of achieve to promote the game by giving an option to post on player social media wall to receive free virtual goods or currency. By doing so, if players accept the offer, posting on their social media increase mass ads online because all the player's friend see the ads on social media and greatly increase exposure at low cost, signaling a "fun" game feeling.

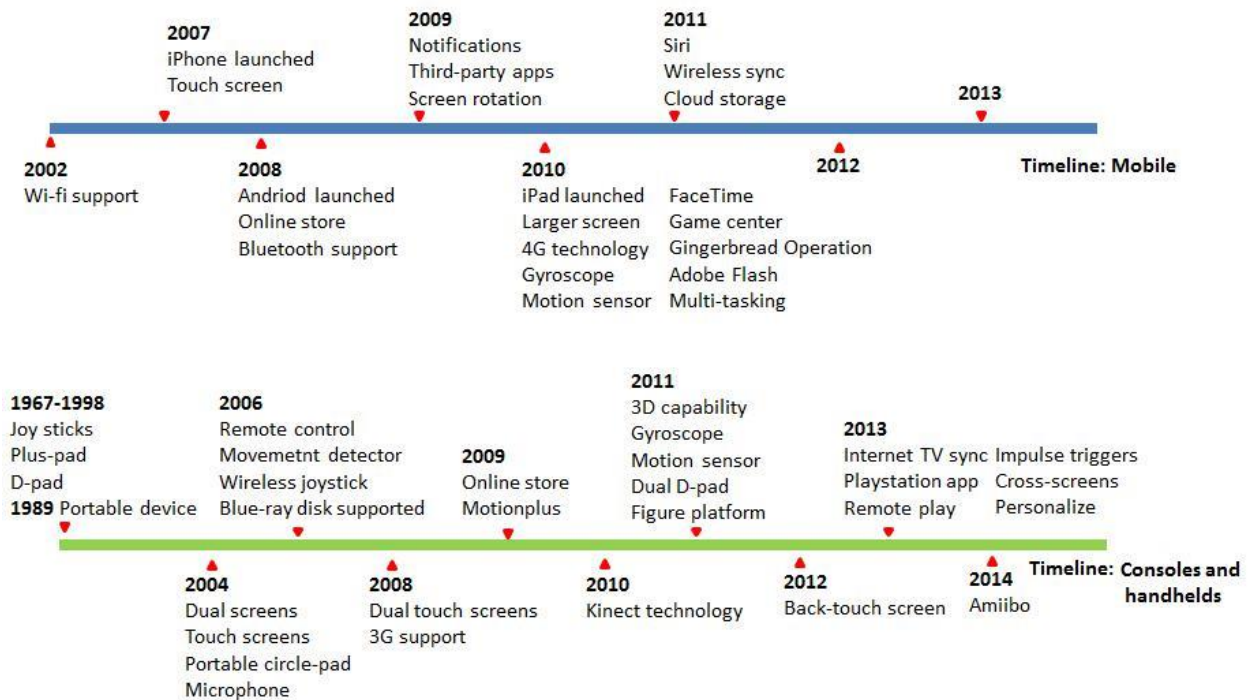
Poorly made advertising will make players mitigate away from the game. Brian, (2014). point out that the bad ads can decrease the positive emotion toward the game and the developers, badly place ads such as in-gamer banners are completely ignore by the players and sometimes even irritate them, make the investment on ads wasted and may create bad environment for the game.

Mobile games do not only advertise their game within games but also provide ads space for other company to gain revenue. People often ask, "How can freemium games gain profit?" Advertising on mobile social games are growing at an amazing rate, more than 300% since 2007. (Figure 8) In the era of smart phones, in-game advertising is the best comparing with other advertising methods because of the high interaction rate, engagement and reward acceptance rate.

Both markets use different strategy to signal the quality through advertising, which are effective in different way. Consoles want to signal the high quality game feeling, where the mobile games want to signal the entertainment and socialization feeling, plus generating huge chunk of revenue through providing advertising space in-game.

Technology change

Technology changes as the world is moving towards the future. Each year, more and more fascinating technologies, other than process faster and higher graphic resolution, have been implemented into gaming industry, create new play styles for game developer companies to use. New technology applies to smartphone and console games are different, as it enhances different function of the device. Timelines below show the evolution of technology implemented to both mobile phone and console and handheld games.



From the timeline, mobile phone developers choose the technology that boost phone performance and easiness access to social media and other communication processes while game console developers move toward technology that give new access of play styles such as dual circle-pad, 3D, remote control, back touch-screen. Important technology for gaming such as motion sensor and gyroscope were implemented to mobile phone first in the year 2010 while it

were added to handheld in 2011, give mobile game developers first move advantage for developing various gameplays, makes casual players commit to mobile route more. From the interview, participants are overwhelmingly suggest console developers to improve new technology such as 3D(natural 3D without glasses that make picture 3-dimensional outside the screen) and holographic picture in order to make mobile gamers, including themselves, buy more console games.

Even though to technology above are implemented in the future, the claim on participants' statements may not be true due to the nature of mobile game as a F2P players. F2P players reject to buy games that incur huge chunk of money especially buying a console which is a huge suck cost to play console games, and with the holographic technology, console developers will charge more price on the holographic accessories and game for such complex technology, drive away all casual players.

After the 2010 point where huge technology were added to mobile phone, there is no new interesting technology since that promote games, differ from the console and handheld which try to find ripe ideas to improve gaming environment since 2004 up until now, 2014. It is true that consumers are wait for something "big" from the console market to increase their players but the developer must find what is the "big" thing gamers are waiting for.

Lifestyle Change

Nowadays, how gamers react to and amount of time spent on game change vastly compare to a decade ago. In the past, gamers usually enjoy game at home (via desktop, console and handheld), but now people are more interact with social media a lot which means time spend on game will be less and less due to this change in people lifestyle.

From the interview, people use phone mainly for 3 purposes, gaming, social networking and other activities (e.g. music, browsing, and other utilities), 53.46% for social networking, 21.77% on gaming and 24.77% on other activities. When comparing the number with the era before smartphone, usage of mobile phone increase from $\approx 1\text{hr/day}$ to $\approx 5\text{hr } 20\text{min/day}$, people contribution on computer and other activity less. Social networking become number one on the list, this is possible since the interaction with computer decrease as the time spent on mobile phone drastically increase, open a new opportunity for mobile game to shine in the market. Most mobile games are now connected to the player social media account, borrowing player friend list whose enjoy the same game to compete with each other. The leader board system in the game stimulate player to compete with each other more and more, increasing the loyalty and player base at the same time.

F2P players value mobile phone more than any game console. New model smart phone cost more than \$700 while game console/handhelds cost only around \$250 but those F2P players decide not to purchase console. Main reason behind the action is the multi-function of mobile phone. Mobile phone is a built-in of multiple functions such as music player, browsing device and even a game device, paying more on just a one purpose device seem to be out of question under these all-in-one mobile phone. They also decline to buy one console and one “good”

mobile phone (the combine price estimation is \$500) which way cheaper than one new model mobile phone, claiming that the utility from a expensive smart phone out number the utility from both device combine.

The more interaction between consumers and their mobile phone, the less consumer time consumers will spend on other activity, especially play game consoles and handhelds.

Conclusion and contribution

Console market and mobile market target different group of gamers, console market target the high type while mobile market target the low type. With the abundance pool of players of low type, combine with the fact that the high type also enjoy all type of games make the mobile market capture more targets and look more please. The strategies conducted by the console market promote only to the high type, drive away all the low type seem to be the main problem of this market. Console manufacturers should consider expanding their target to the low type, try to promote their game more on social network and in mobile application to create awareness and increase product demand in the casual player pool. They are doing great in term of technology but yet reach the point where the gamers expectation is, if they can create the formula that could exceed that expectation point, more gamers will come into the market to seek the new sensation where mobile phone games cannot give them. Technology is also the part the consumer decision to buy or not buy the device, mobile phone, as an all-in-one purpose device look more charming than a console since it have multiple function, console developers can also modify the device to be more useful than just a game player to attract more consumers in. Game developer should also seek new way to make game console suit to the changing of gamer's lifestyle to gain more attention from both type of gamers and become better in the future.

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Appendix

Table 1 : Interview data on game industry

Interviewee	estimate time	percentage G	percentage S	percentage O	Console P	Mobile min P
1	5	10	50	40	8000	5000
2	8	10	35	55	3000	8500
3	7	30	60	10	3000	4000
4	3	35	60	5	8000	6000
5	6	35	30	35	8000	8000
6	3	10	80	10	5000	5000
7	5	30	40	30	2000	5000
8	4	10	30	60	10000	5000
9	7	20	60	20	7000	9000
10	6	20	70	10	4000	4000
11	6	10	40	50	2000	5500
12	8	10	75	15	2000	8000
13	3	50	40	10	8000	5000
14	4	5	80	15	5000	6000
15	5	15	30	55	10000	6000
16	6	15	80	5	5000	8000
17	6	20	50	30	5000	6500
18	7	40	50	10	10000	10000
19	5	35	60	5	8000	5000
20	5	5	90	5	7000	12000
21	3	30	50	20	4000	3000
22	8	40	40	20	3000	6000
23	6	30	65	5	6000	7000
24	4	20	60	20	5500	6500
25	4	10	80	10	5000	10000
26	5	25	30	45	6500	7000
27	3	33	34	33	7000	7000
28	7	10	65	25	5000	9000
29	5	35	45	20	8000	4000
30	4	5	25	70	6000	4000
	5.266666667	21.76666667	53.46666667	24.76666667	5866.667	6500
Average	5.27	21.77	53.46	24.77	6000	6500

Estimate time - time spent on mobile phone daily
 Percentage G - Percentage playing games on mobile phone
 Percentage S - Percentage on social activities on mobile phone
 Percentage O - Percentage on other mobile phone usage
 Console P - Expected console price
 Mobile min P - Expected minimum price for a good mobile phone

Figure 1: Global unit sales of current generation video game consoles from 2008 to 2013 (in million units)

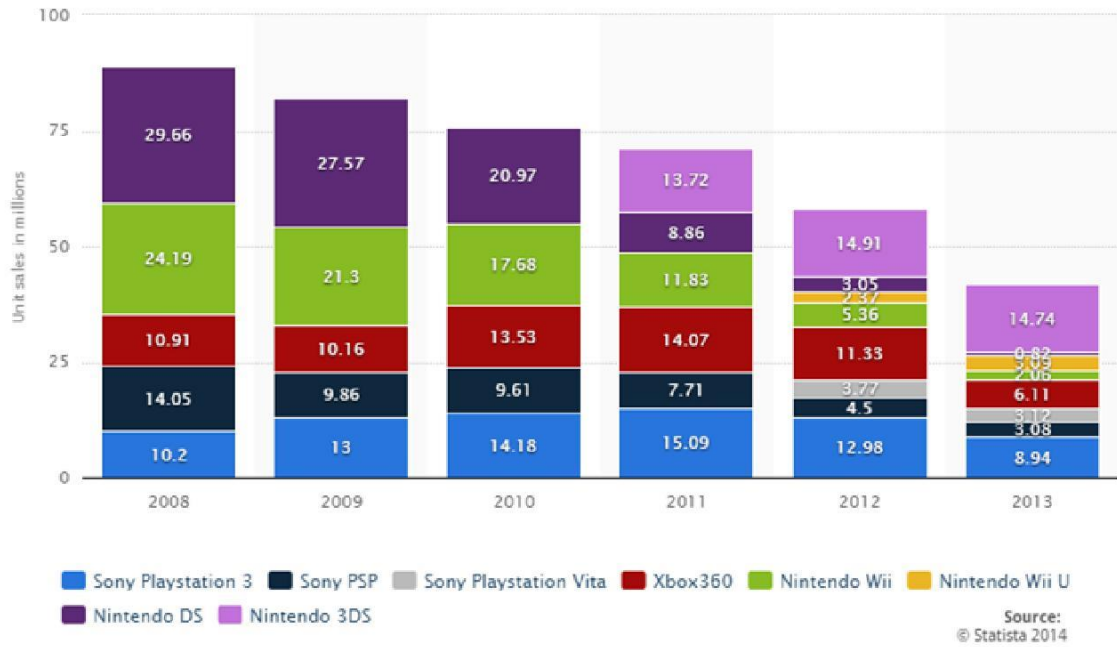


Figure 2: Number of mobile phone gamers in the United States from 2011 to 2017 (in millions)

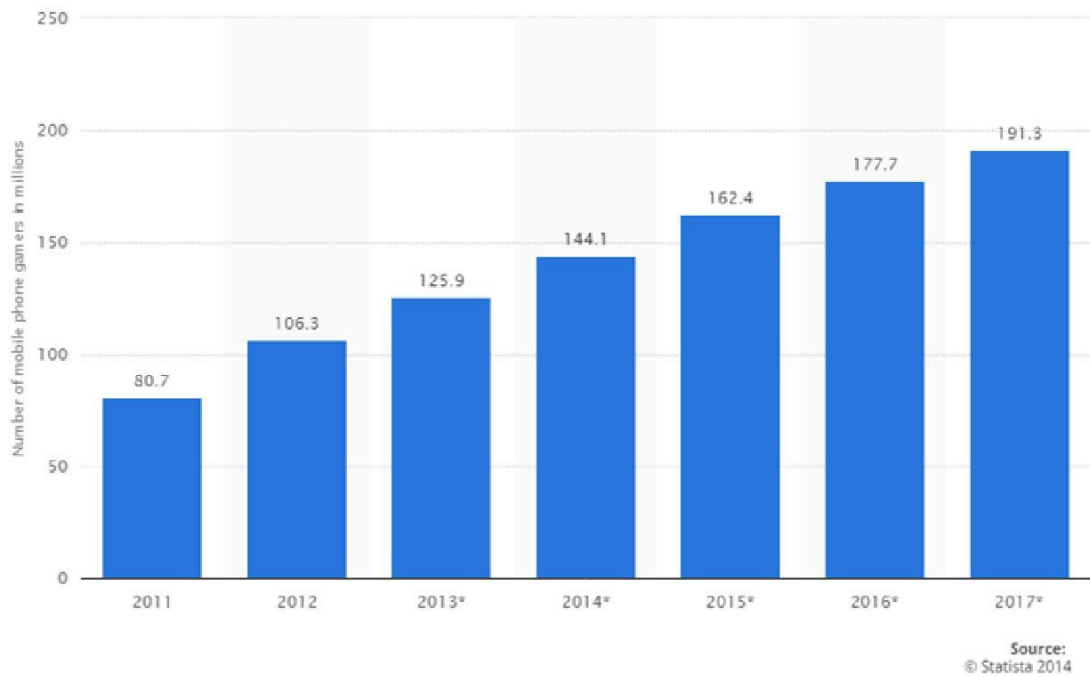


Figure 3: What has influenced the increase in your mobile game play?

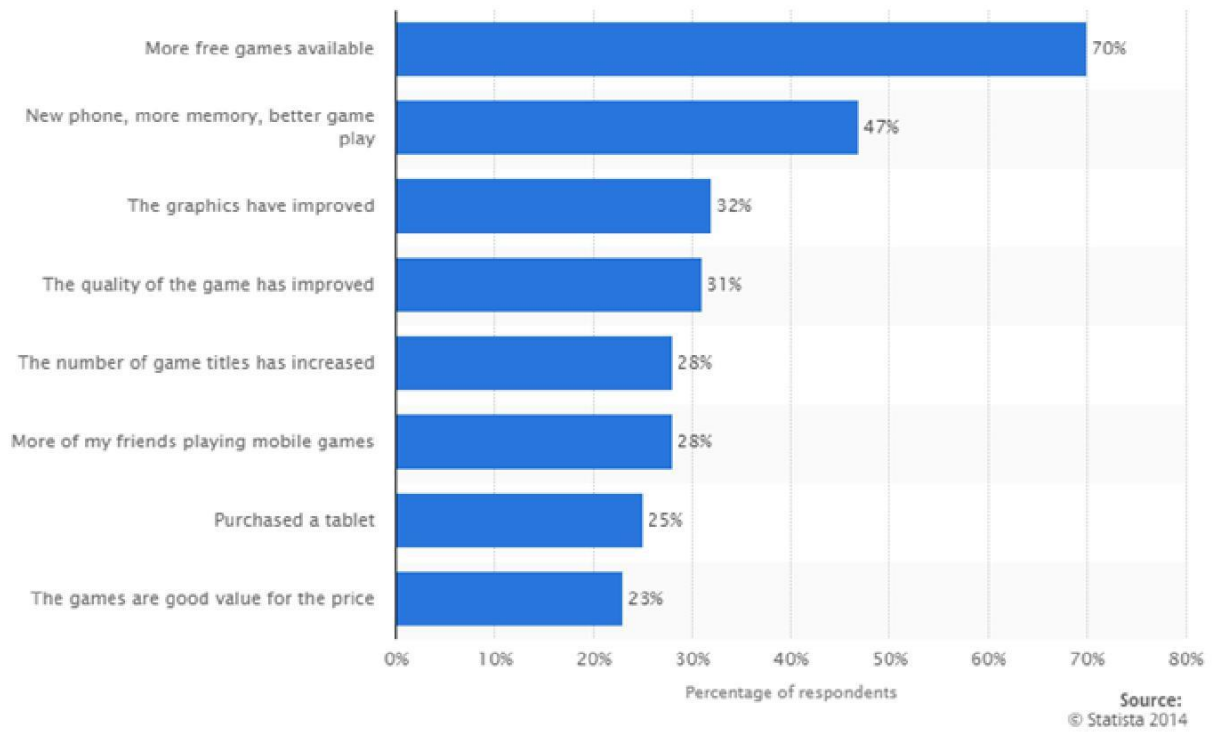


Figure 4: Time spend on mobile phone applications

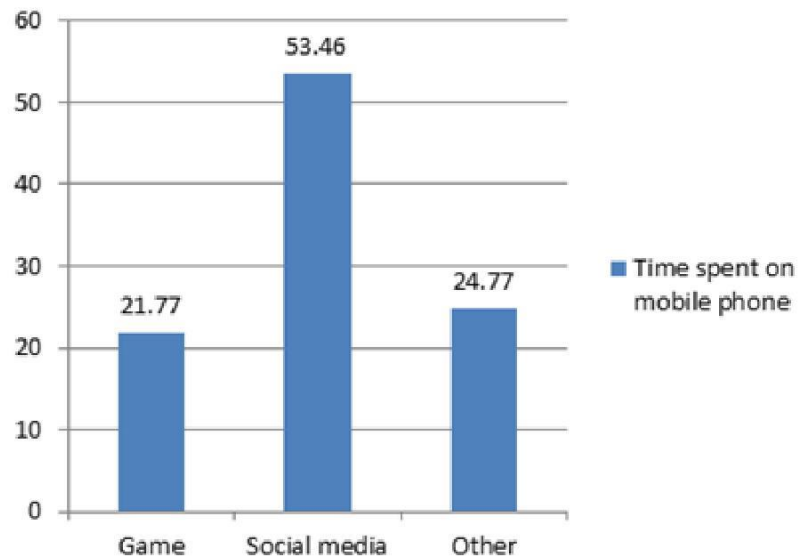


Figure 5: Expected price on game device

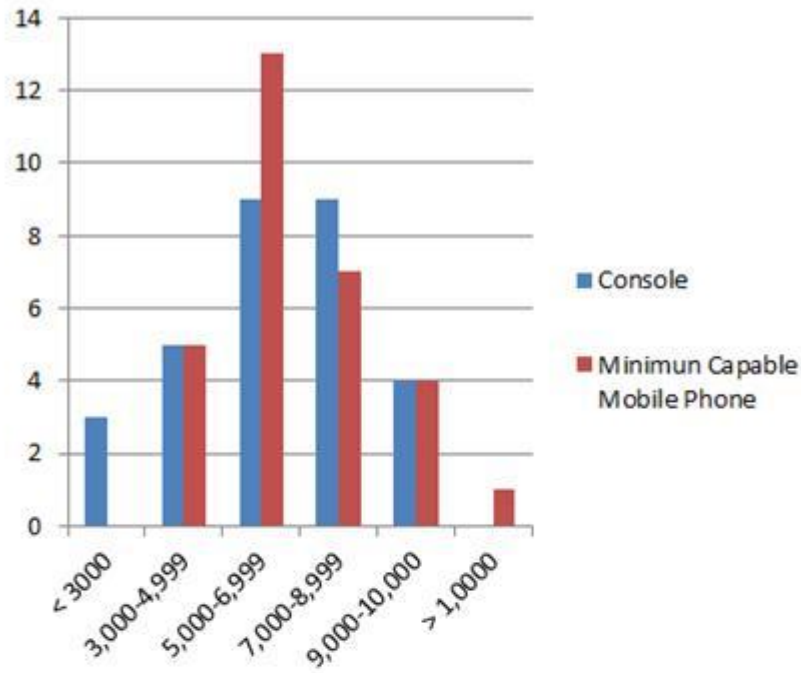


Figure 6: Estimate time spent on mobile phone daily

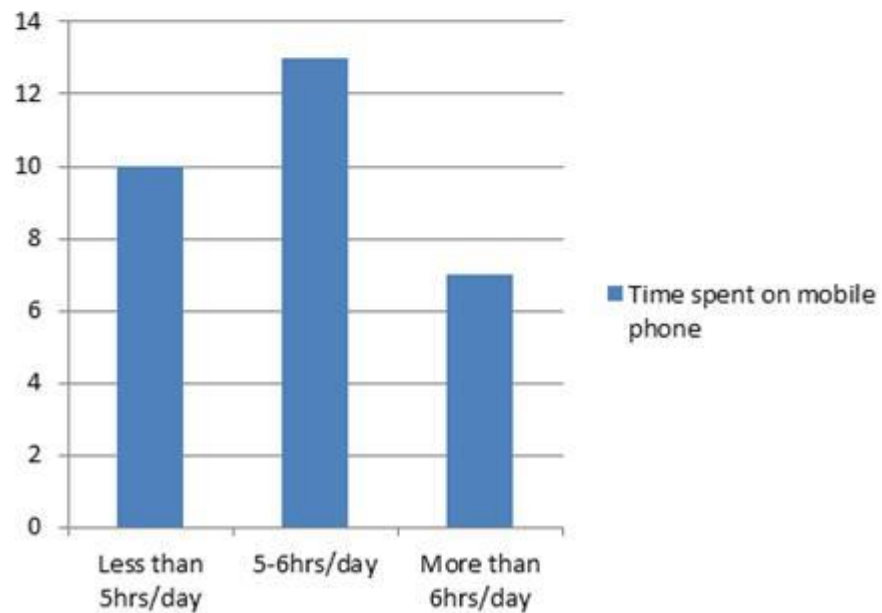


Figure 7: Average annual consumer spending on mobile games per capita in the United States from 2011 to 2013 (in U.S. dollars)

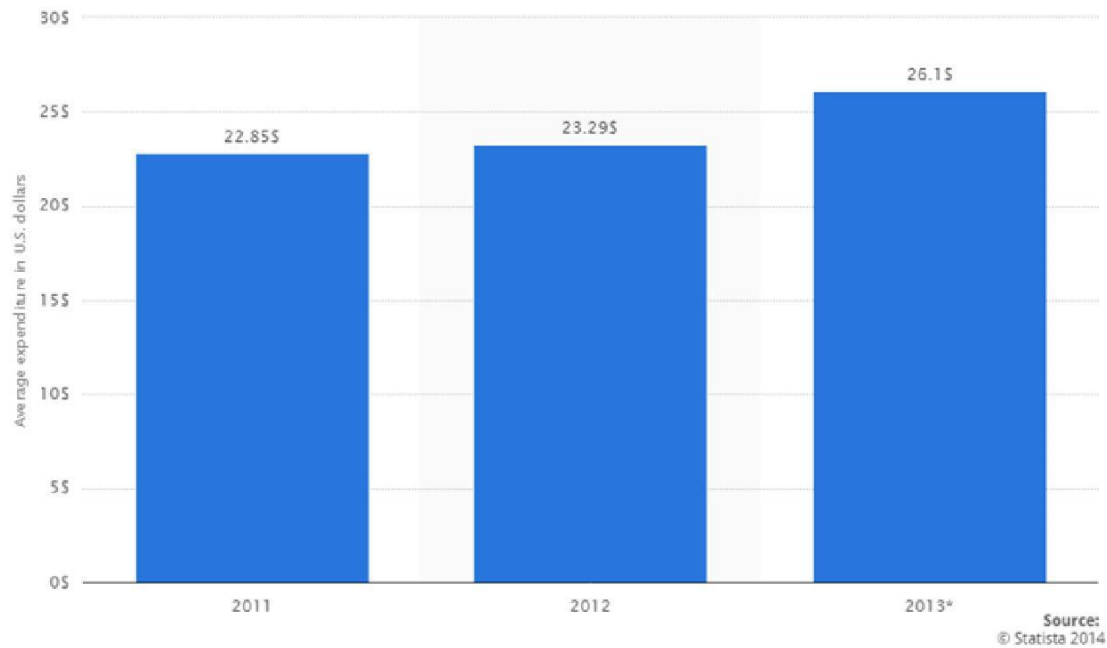


Figure 8: Global video games advertising revenue from 2007 to 2016 (in billion U.S. dollars)

