

# Video Games

Are you game enough?

USA | | NON-RATED

04 November 2016

## Holiday Season

As we approach the end of the year, the holiday season is coming upon us. With that in mind, we will look at a sector that is likely to experience a boost due to holiday sales; the video games industry.

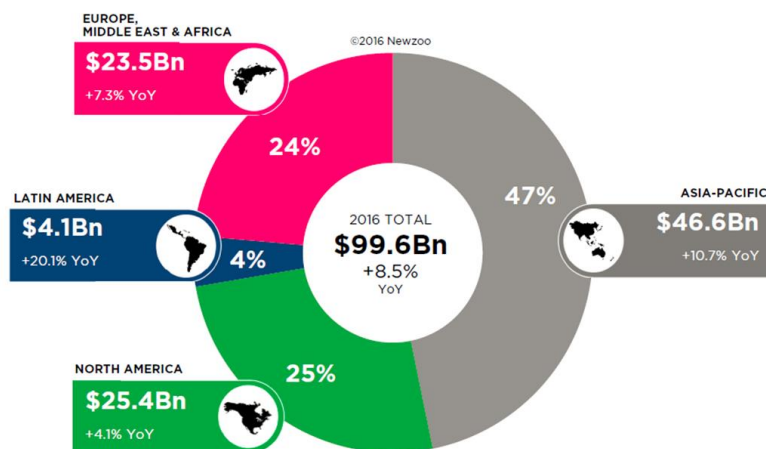
## Investment Action?

Previously considered a domain for “geeks” and “nerds”, social perception about video gaming and gamers had tended to be negative, at best regarding the hobby as a waste of time, at worst applying social stigmas of anti-social behaviour.

Today, video gaming has turned into a USD 100 bn industry, with gaming garnering more and more mainstream acceptance. The industry has grown 8.5% Y-o-Y to reach close to USD 100 bn in 2016, with 58% of the growth coming from the Asia-Pacific region

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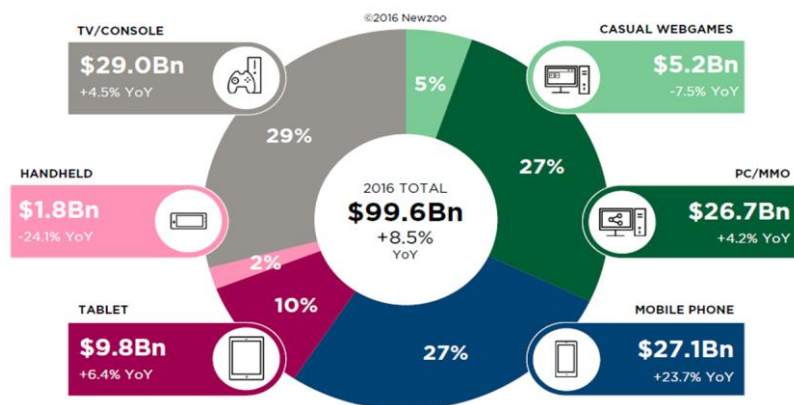
**Figure 1: Video gaming industry turnover by Geographic regions**



Source: Newzoo, Phillip Securities Research (Singapore)

**Figure 2: Video gaming industry turnover by segment**

With the advent of the smartphone, the general public found themselves with a tiny computer readily on hand, and consequently, mobile gaming as a segment has seen the largest Y-o-Y growth.



Source: Newzoo, Phillip Securities Research (Singapore)

Video gaming economics is not solely limited to direct contribution from game itself. In recent years, video game competition has given rise to what is now known as esports. While competitions have been around for as long as competitive video games have been, it is only in the recent couple of years that it has grown to the scale that it is.

**Figure 3: Largest Prize Pools for major video gaming competitions**

Largest Overall Prize Pools in eSports					
1.	The International 2016	\$20,770,640.00	Dota 2	16 Teams	80 Players
2.	The International 2015	\$18,429,613.05	Dota 2	16 Teams	80 Players
3.	The International 2014	\$10,931,103.00	Dota 2	14 Teams	70 Players
4.	DAC 2015	\$3,057,521.00	Dota 2	20 Teams	100 Players
5.	The Frankfurt Major 2015	\$3,000,000.00	Dota 2	16 Teams	80 Players
6.	The Manila Major 2016	\$3,000,000.00	Dota 2	16 Teams	80 Players
7.	The Shanghai Major 2016	\$3,000,000.00	Dota 2	16 Teams	80 Players
8.	The International 2013	\$2,874,407.00	Dota 2	8 Teams	40 Players
9.	Smite World Championship 2015	\$2,612,259.00	Smite	8 Teams	40 Players
10.	Halo World Championship 2016	\$2,500,000.00	Halo 5: Guardians	16 Teams	64 Players

Source: esportsearnings

With prize pools reaching as high as USD 20 mn, it is now feasible for the best video gamers to actually make careers out of playing video games. Furthermore, there is a big market for streaming gameplay on video sharing websites, which also allow gamers who are not professionals to also make a living of playing video games. Total online audience for the biggest esports video games can come to rival the largest sporting events, bringing along lucrative views for advertising.

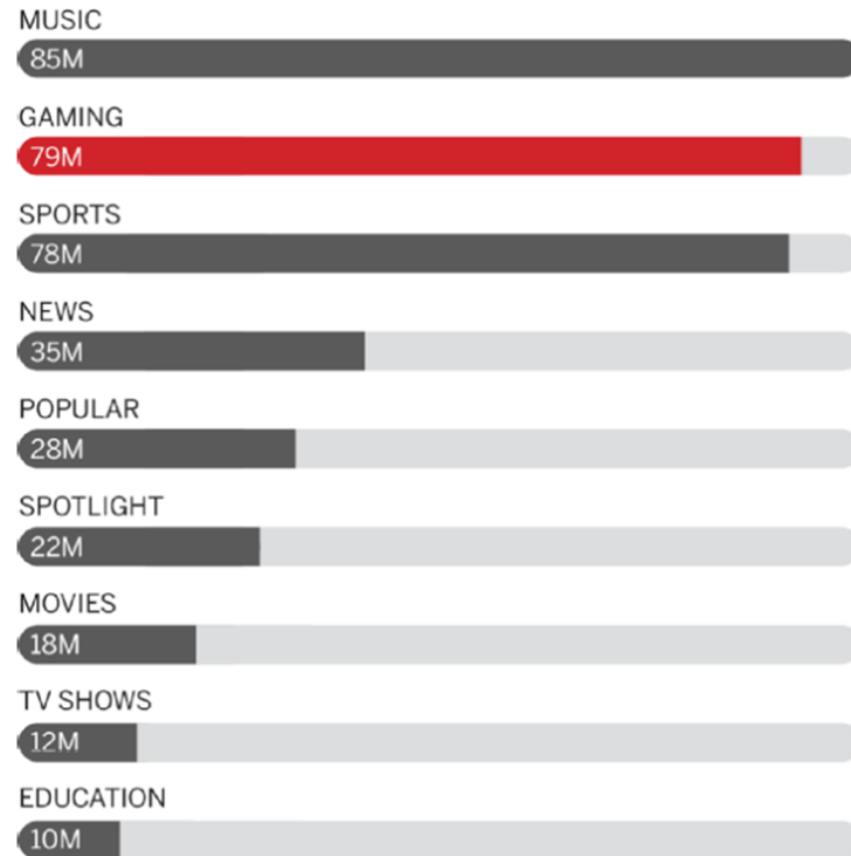
**Figure 4: Total online audience for major esports video games vs Other major events**



ESPN.com illustration

The top paid channels on YouTube, besides Music, were gaming channels, garnering more views than even Sports or News.

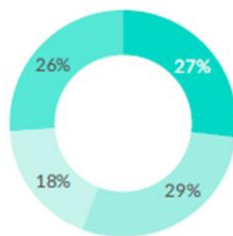
**Figure 5: Total YouTube Followers by segment**



ESPN.com illustration

**Figure 6: Gamer gender and age breakdown**

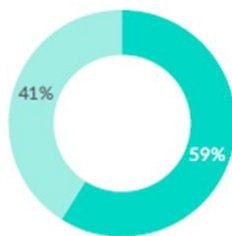
The average game player age is **35** years old



### AGE

of Game Players

27% under 18 years  
29% 18-35 years  
18% 36-49 years  
26% 50+ years



### GENDER

of Game Players

59% male  
41% female



The most frequent **FEMALE GAME PLAYER** is on average **44 years old**  
and the average **MALE GAME PLAYER** is **35 years old**



Source: Entertainment Software Association, Phillip Securities Research (Singapore)

The average gamer actually belongs to a highly lucrative demographic. With the largest segment of gamers between the ages of 18-35 years old, this group is likely to be employed with high disposable income.

In the USA, 63% of US households report at least 1 person that plays video games regularly (>3 hours per week). 48% of US households own a dedicated gaming console. USA was actually overtaken this year as the top country in terms of video game revenue, with China taking the top spot.

**Figure 7: Countries with highest gaming revenues**

CHANGE	RANK	COUNTRY	POPULATION (M)	ONLINE POPULATION (M)	TOTAL REVENUES (M\$)
▲ 1	1	CHINA	1,382.3	788.8	24,368.8
▼ 1	2	USA	324.1	293.6	23,598.4
-	3	JAPAN	126.3	117.6	12,447.6
-	4	SOUTH KOREA	50.5	44.6	4,047.3
-	5	GERMANY	80.7	72.4	4,018.7
-	6	UNITED KINGDOM	65.1	61.1	3,830.2
-	7	FRANCE	64.7	56.7	2,737.9
-	8	SPAIN	46.1	37.6	1,812.0
-	9	CANADA	36.3	32.8	1,792.2
-	10	ITALY	59.8	41.3	1,742.1

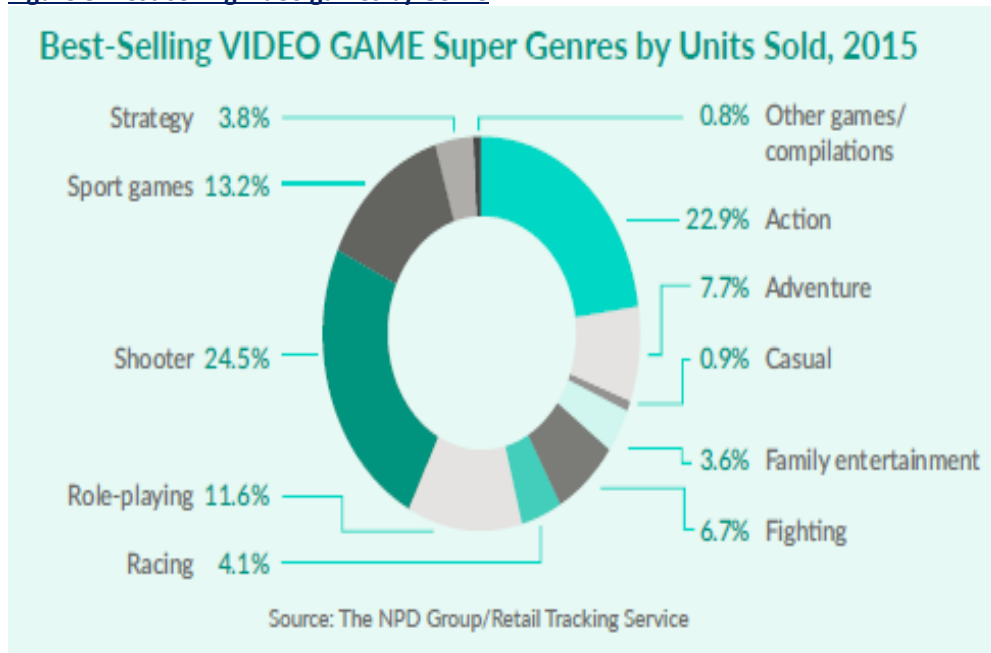
Source: Newzoo, Phillip Securities Research (Singapore)

Of note is that with China's population almost 4 times of the USA, the total revenue contributed is almost the same. As China's population continues to become more affluent, China's contribution to the total game revenue is likely to increase massively.

#### Top Sellers?

Of all the myriad genres of gaming, the Shooter genre is the bestselling, with more than 24% of all video game units sold belonging to that genre. The Action genre is a close second followed by Sports with 22.9% and 13.2% respectively.

**Figure 8: Best-selling video games by Genre**



**Figures 9 and 10: 2015 Top 20 Video and Computer games by units sold**

**Top 20 Selling VIDEO GAMES of 2015**  
BY UNITS SOLD

RATING	
1	CALL OF DUTY: BLACK OPS III (M)
2	MADDEN NFL 16 (E)
3	FALLOUT 4 (M)
4	STAR WARS BATTLEFRONT 2015 (T)
5	NBA 2K16 (E)
6	GRAND THEFT AUTO V (M)
7	MINECRAFT (E 10+)
8	MORTAL KOMBAT X (M)
9	FIFA 16 (E)
10	CALL OF DUTY: ADVANCED WARFARE (M)
11	BATMAN: ARKHAM KNIGHT (M)
12	LEGO: JURASSIC WORLD (E)
13	BATTLEFIELD HARDLINE (M)
14	HALO 5: GUARDIANS (T)
15	SUPER SMASH BROS. (E)
16	THE WITCHER 3: WILD HUNT (M)
17	DYING LIGHT (M)
18	DESTINY: THE TAKEN KING (T)
19	NBA 2K15 (E)
20	METAL GEAR SOLID V: THE PHANTOM PAIN (M)

Source: The NPD Group/Retail Tracking Service

**Top 20 Selling COMPUTER Games of 2015**  
BY UNITS SOLD

RATING	
1	THE SIMS 4 (T)
2	FALLOUT 4 (M)
3	THE SIMS 3: STARTER PACK (T)
4	THE SIMS 4 GET TO WORK EXPANSION PACK (T)
5	STARCRRAFT II: LEGACY OF THE VOID (T)
6	ELDER SCROLLS V: SKYRIM (M)
7	FALLOUT ANTHOLOGY (M)
8	GRAND THEFT AUTO V (M)
9	WORLD OF WARCRAFT: WARLORDS OF DRAENOR EXPANSION PACK (T)
10	STAR WARS BATTLEFRONT 2015 (T)
11	THE SIMS 3: PETS (T)
12	THE SIMS 3 SEASONS EXPANSION PACK (T)
13	DIABLO III: REAPER OF SOULS (M)
14	DIABLO III (M)
15	THE SIMS 3: ISLAND PARADISE EXPANSION PACK (T)
16	THE SIMS 3: UNIVERSITY LIFE EXPANSION PACK (T)
17	THE SIMS 3: SUPERNATURAL EXPANSION PACK (T)
18	STARCRRAFT II: WINGS OF LIBERTY (T)
19	SIM CITY 2013 (E 10+)
20	WORLD OF WARCRAFT: BATTLE CHEST 2013 (T)

Source: The NPD Group/Retail Tracking Service

Of note in the above Top 20 list, a majority of the top selling games belong to a few major game developers. It is also interesting to note that a vast majority of the games in the list are sequels to existing games, highlighting the value of having a successful franchise in the effort to get gamers to purchase more games.

Figure 11: Global top video game maker by sales

	2014	2015	Yoy % Chg	2015 Market Share
Tencent + Supercell	\$9.0	\$11.1	23.0%	12.0%
Microsoft	\$5.0	\$6.8	36.2%	7.4%
Activision + King	\$6.7	\$6.7	-0.1%	7.3%
Sony	\$5.1	\$5.8	13.1%	6.3%
Apple	\$3.5	\$4.4	26.3%	4.8%
Electronic Arts	\$4.5	\$4.3	-4.0%	4.7%
Google	\$2.4	\$3.0	25.4%	3.2%
NetEase	\$1.6	\$2.8	76.0%	3.0%
Time Warner Inc.	\$1.6	\$2.2	39.4%	2.4%
Nintendo	\$2.1	\$1.9	-8.8%	2.1%
Nexon	\$1.4	\$1.6	7.5%	1.7%
Rest of Top 30	\$10.4	\$10.9	5.6%	11.9%
Others	\$30.5	\$30.4	-0.2%	33.1%
<b>Total</b>	<b>\$83.6</b>	<b>\$91.8</b>	<b>9.8%</b>	

Note: Revenue in billions.  
Source: NewZoo, Bloomberg Intelligence

According to Bloomberg, two thirds of all video game revenue is generated by the top 30 companies. Tencent Holdings, with its recent acquisition of Supercell, is now the largest game maker globally by sales. However, Tencent is a Chinese company listed on the Hong Kong exchange, and for the purpose of this USA report, will not be the focus.

### 1. Electronic Arts Inc (NASDAQ:EA)



**Electronic Arts Inc** is one of the world's largest game developers and publishers. In terms of revenue, it sits at sixth place in 2015, with USD 4.3 bn in revenue. EA is currently trading at **USD 80.52** per share, with a **PER** of **20.51** and it currently does not pay a dividend.


- **Big IPs** – As mentioned previously from the Top 20 list, a successful franchise is an important factor in determining whether a game will sell or not, and EA

has a large portfolio of very successful franchises.

**EA Sports** is the largest contributor of revenue for EA, consisting of games like FIFA, Madden, etc. A recent development for the franchise is EA introducing the Ultimate Team mode for the EA sports franchises. The mode allows players to build teams to compete with each other online by drawing player packs, which gamers can pay to buy more of. The players in each pack are random and range from common to rare.



Figure 12

Bronze 0 - 64	Silver 65 - 74	Gold 75 - 99
<b>58</b> LM  <b>O'BRIEN</b> 72 PAC 63 DRI 56 SHO 30 DEF 48 PAS 65 PHY BASIC	<b>70</b> ST  <b>URIBE</b> 70 PAC 71 DRI 71 SHO 34 DEF 55 PAS 67 PHY BASIC	<b>81</b> CM  <b>CASTRO</b> 74 PAC 81 DRI 69 SHO 75 DEF 82 PAS 69 PHY BASIC
<b>64</b> ST  <b>AKINFENWA</b> 49 PAC 62 DRI 60 SHO 35 DEF 54 PAS 81 PHY BASIC	<b>74</b> CDM  <b>BECKERMAN</b> 55 PAC 68 DRI 63 SHO 72 DEF 67 PAS 72 PHY BASIC	<b>93</b> LW  <b>RONALDO</b> 92 PAC 90 DRI 93 SHO 33 DEF 80 PAS 78 PHY BASIC
<b>64</b> ST  <b>O'BRIEN</b> 73 PAC 65 DRI 61 SHO 32 DEF 50 PAS 67 PHY BASIC	<b>73</b> ST  <b>URIBE</b> 71 PAC 74 DRI 75 SHO 36 DEF 57 PAS 70 PHY BASIC	<b>94</b> LW  <b>RONALDO</b> 93 PAC 91 DRI 94 SHO 35 DEF 82 PAS 80 PHY BASIC

As of FY 2016, the Ultimate Team Mode had generated USD 650 mn in annual revenue, half of all sales generated by extra digital content, which totaled USD 1.3 bn. This revenue is additional to what gamers pay for the base game itself.

**Battlefield** is another successful franchise in the huge Shooter genre. Battlefield 3 was a great success, selling 15 mn copies in 2012 when it was released. Historically, the Battlefield series has come in behind the Call of Duty series, but the most recent iteration of the game, Battlefield 1, which takes place during World War 1, has garnered more positive hype compared to the Call of Duty: Infinite Warfare, which takes place in the future. There was a stark difference in reception to the two games trailers



**Figure 13: Battlefield vs Call of Duty – Official Trailer Viewcount**

Battlefield 1 Official Reveal Trailer



Official Call of Duty®: Infinite Warfare Reveal Trailer



Source:

Battlefield 1 was released on 21 October 2016 to positive reviews and remains to be seen if this year will be the year EA can overtake its competitor as the top Shooter.

**Titanfall** is a fairly new franchise for EA, also in the Shooter franchise, set in the future. Titanfall 1 released to much fanfare, selling close to 7 mn units. Titanfall 2 was released on 28 October 2016 and EA expects it to sell between 9-10 mn units. While initial reviews of the beta test were not glowing, early release reviews have since put the game in a better light.

**Mass Effect** was a successful role playing game set in an alternate future, the game concluded its story in 2012 with Mass Effect 3, which made USD 200 mn in FY12. The series sold close to 14 million copies across the whole series. EA announced that they would be continuing to set games in the same universe with Mass Effect 4 due to be released in Q1 2017.

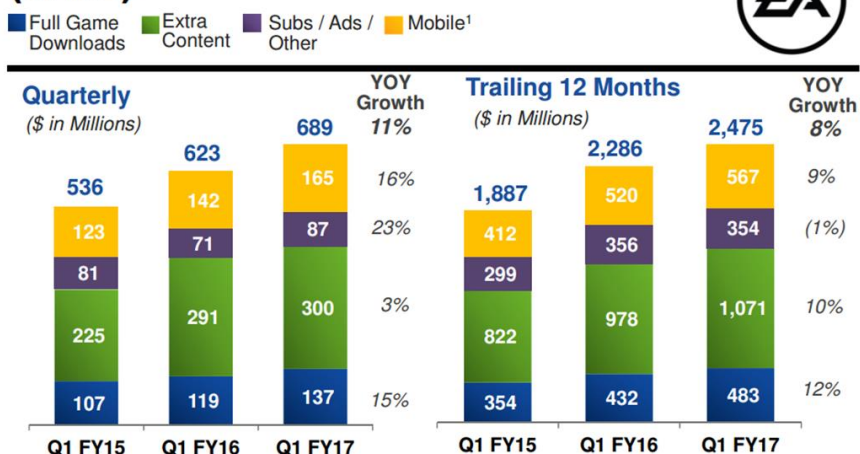
EA also has other franchises including **The Sims**, **Dragon Age** etc, however as of this report, no new games have been announced for these franchises yet.

- **Mobile Gaming** – As noted above, Mobile gaming is the largest growth segment of the video gaming market. EA has also taken steps to drive up its Mobile gaming segment, with games like Plants vs Zombies, Star Wars: Galaxy of Heroes. EA has managed to grow their Mobile gaming revenue for Q1 FY17 by 16% Y-o-Y.



**Figure 14: Electronic Arts Net Revenue Breakdown**

### EA Digital Net Revenue by Type (GAAP)



Source: Company, Phillip Securities Research (Singapore)



**Move to Digital Sales** – Currently, EA sells most of its games as packaged, physical goods. The full game download (trailing 12 months(TTM)) revenue for Q1 FY17 was USD 483 mn vs the Packaged good (TTM) revenue of USD 1.989 bn. Full game downloads, where the game is downloaded directly from the company, allows EA to cut the middle man, retailers, as well as save some cost on revenue owing to the physical distribution. As a comparison, Adobe Systems Incorporated, which has transitioned fully into digital, subscription based model, has about 85% gross margin. EA's gross margin is about 69%, improving from 64% about 3 years ago. Given the proportion of digital downloads vs packaged, EA may be able to reap further benefits from increasing margins if they are able to drive gamers to download the game directly from the company instead of purchasing physical copies. (Below table might be better in graphical form)

**Figure 15: Company historical Gross margin**

Y/E Mar, USD bn	Q2FY14	Q3FY14	Q4FY14	Q1FY15	Q2FY15	Q3FY15	Q4FY15	Q1FY16	Q2FY16	Q3FY16	Q4FY16	Q1FY17
Gross Margin	64.4%	60.9%	62.3%	60.4%	62.9%	68.2%	68.3%	72.6%	71.9%	68.1%	69.2%	69.5%

Source: Company, Phillip Securities Research (Singapore)

## 2. Activision Blizzard Inc (NASDAQ: ATVI)



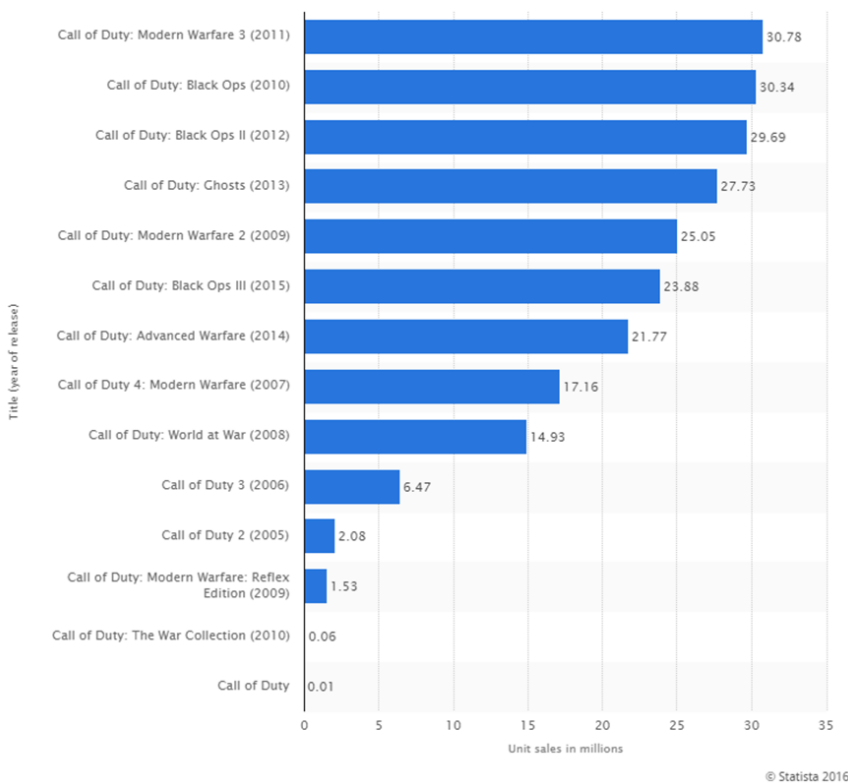
**Activision Blizzard Inc** is another large game developer, sitting as the 3<sup>rd</sup> largest in terms of game revenue after the acquisition of King. ATVI is currently trading at **USD 43.37** with a **PER** of **43.55** with a dividend yield of 0.60%.

- **Big IPs** – ATVI also owns some of the biggest gaming franchises in the industry.

**Call of Duty** remains the biggest shooter to date, with more than 200 mn units shipped across the franchise and remaining the bestselling video game for many years in a row. Since 2009, each iteration of the series has sold more than 20 mn units. While the latest, as yet unreleased, Call of Duty: Infinite Warfare is facing negative reception online, the pre order numbers remain high, higher than Battlefield 1 mentioned above and is still likely to be the bestselling Shooter of the year.



Figure 16: Unit Sales for Call of Duty series



Source: Statista, Phillip Securities Research (Singapore)

**Overwatch** is a new game that was released on 24<sup>th</sup> May 2016 and in the 5 months since the game's released, the game has sold close to 10 mn units. ATVI recently revealed plans to develop a dedicated esports league for Overwatch, they had bought the Major League Gaming (MLG) in Jan 16. Having an active esports scene would help to encourage more participation and might lead to greater sales. Besides actual game sales, Overwatch has a Microtransaction store, where players can purchase alternate "skins" or costumes, among other cosmetic items. This model has been very successful in another game **Dota 2**, where they offered cosmetic items for the game in order to contribute to the overall prize pool of their competitions. Valve, the company that owns Dota 2, takes about a 75% cut of proceeds that come from the microtransactions, and still managed to raise USD 20 mn for the biggest tournament of the year. If ATVI manages to accomplish a similar or higher level of success, Overwatch might end up becoming a very lucrative revenue generator for ATVI.

**World of Warcraft (WOW)** is the largest Massively Multiplayer Online (MMO) game and the most famous. At its peak, the game had more than 12 mn subscribers playing concurrently but has since matured and started to fall. The number of active players is estimated to be between 4-6 mn as of end 2015, the lowest it has been in almost 10 years. However, ATVI recently released a new expansion, Legion, on 30 Aug 2016, where they had a very successful launch, selling 3.3 mn copies on launch. This was on par with the best performing expansion, Cataclysm, which ATVI released in 2010, where WOW reached its peak. ATVI mentioned in an interview that since the expansion, there are now 10 mn players but are cautious about ability to retain that number. At USD15 a month for a subscription, 10 mn players would equate to almost USD450 mn a quarter, almost a full third of ATVI's latest quarter's revenue.



- **Mobile Game Acquisitions** – In February this year, ATVI acquired King Digital, the publishers of the Candy Crush series. At its peak, King Digital was making over USD2 bn a year on the success of its addictive mobile game, Candy Crush. While it appears that active players and revenues are declining now, the daily revenue for Candy Crush is still estimated at more than USD450,000. As of October 2015, the game were ranked 3<sup>rd</sup> and 4<sup>th</sup> in terms of revenue.

Figure 17: Top Grossing Mobile games

RANK	GAME TITLE	PUBLISHER	CHANGE
1	Game of War – Fire Age	Machine Zone	-
2	Clash of Clans	Supercell	-
3	Candy Crush Saga	King	-
4	Candy Crush Soda Saga	King	-
5	DoubleDown Casino	DoubleDown Interactive	-
6	Big Fish Casino	Big Fish Games	-
7	Boom Beach	Supercell	-
8	Hay Day	Supercell	-
9	MADDEN NFL Mobile	Electronic Arts	▲ 5
10	Slots Free Casino House of Fun!	Pacific-Interactive	-

Source:Newzoo

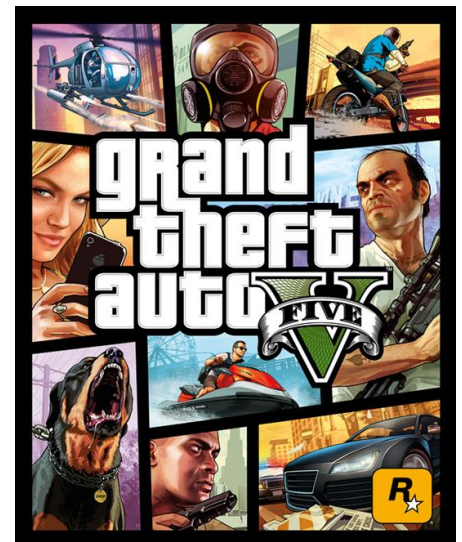
### 3. Take-Two Interactive Software Inc (NASDAQ: TTWO)



**Take-two Interactive Software Inc** is the developer and publisher of the very successful Grand Theft Auto as well as the 2K sports games, which it publishes through the Rockstar Games and 2K labels. TTWO is currently trading at **USD 48.29** with a **PER** of **737.14**. The company currently does not pay a dividend.

- **Franchises** – TTWO biggest franchises are the Grand Theft Auto series as well as its sports franchises, sold through the 2K label.

**Grand Theft Auto** is an open world sandbox game, set in different cities, where players can perform a myriad of different activities. As a series, GTA has been very commercially successful, having shipped more than 235 mn units. The latest in the franchise, GTA 5, shipped more than 60 mn units. GTA 5 also introduced an online mode which included microtransactions. TTWO reported recently that they had made more than USD 500 mn in microtransactions for the year. Microtransactions are hugely profitable with almost a 100% profit margin given the minimal cost in producing them. To date, GTA 5 is estimated to have brought in close to USD 3 bn for the company. The online mode, and the profitability of the microtransactions, have led to rumors that the next game in the franchise has been delayed, in favor of directing more resources to developing more items for the online store. Higher profitability is an important factor for TTWO given its poor earnings and increased focus on microtransactions in its future games might help it to turn its performance around.



**Red Dead Redemption** is another game similar to the GTA series, set in the Wild West period. The first game was released in 2010 and was very successful, selling over 14 mn units. In Oct 2016, TTWO announced that 7 years after the first game was released, they would be publishing a sequel in late 2017. Given the success and popularity of the first game, and the importance of strong franchises in the video game industry, this first sequel could help build another franchise to help TTWO bring their profitability up, especially if they replicate the online mode for the game.

### Conclusion

The video game industry has developed a long way to become the huge industry it is today. With gamers belonging to a lucrative demographic, the rise of esports and increased interest in watching gaming related content, we believe that the industry will continue to grow. As mentioned above, the industry as a whole is a very hit based industry, and strong franchises are important in appealing to gamers' time and wallets. As such, we have selected companies that own these kind of strong franchises with large followings. With the increased focus on profitable microtransactions, new titles on the horizon, just in time for the holiday season, as well as the growing mobile/casual market bringing in more players, we believe that these companies have potential to benefit from the continued growth and developments in the video gaming industry.





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