



U.S. Video Game Report

Leveled Up

Since they first appeared, video games have entertained both kids and adults. The improvements to hardware such as sound cards, graphics and faster processors have meant a related growth and development of the gaming industry as well. The market for video games is enormous; it has surpassed both the music and film industries in size, and it is still expanding. With more than two billion gamers in the world, firms are eager to get a bigger slice of the hundreds of billions of dollars generated. Given this immense revenue potential, it is no wonder that the gaming industry remains extremely competitive.

This report examines the strengths and shortcomings of the video game industry, assesses the current market conditions, and provides a future industry outlook.

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Introduction

History of the U.S. Gaming Industry

1970s – 1980s

The video game industry was born in the 1970s after being curated in the 60s, starting with the launch of Atari's *Pong*. It was a simple arcade game that was a sensation amongst consumers and was the first console to sell more than a million units. Shortly after the boom of Pong, came franchises like *Pac-Man* and *Donkey Kong* that dominated the market until the 80s.

1980s – 2000s

As Atari rushed to capitalize the growth of the gaming industry, many other competitors looked to do the same in the 80s. Nintendo was one of the first major competitors to be successful. They launched the Nintendo Entertainment System (NES) in 1985 and focused on releasing high quality games which became one of Atari's weaknesses as the industry progressed.

2000s – Present

As the world began to see the rise of the internet and mobile devices, the gaming industry saw growth in revenue of tens of billions to hundreds of billions. The online and mobile gaming industry was born and several major players in the technology space quickly moved to introduce themselves into the gaming industry as well. Microsoft was one of the most notable due to their creation of the Xbox. Apple further solidified this industry transformation with the iPhone and App Store where Google quickly followed suit with their Android products.

Key Statistics

Market Value in 2022 \$85.86B

CAGR 2016-2020 14.3%

Projected CAGR 2021 - 2026 9.4%

Profit Margin in 2022 23.4%

Industry Performance by Revenue (in USD\$ billions)



Introduction

Industry Overview

The video game industry in the United States has traditionally been seen as a niche market that caters to young people and fans. Over the years, playing video games has entered the mainstream, with more than 50% of Americans now participating. Additionally, the video gaming business has had massive growth and earnings following a period of unheard-of expansion. The adoption of various revenue models, including free-to-play, subscription, and ad-driven models, is then crucial for the development of the U.S video game industry.

The retail segment of this industry consists of gaming consoles, games designed for such systems, and games created for personal computers. A sizable portion of the industry is also accounted for by the development and production of video games, gaming consoles, and accessories.

Generally, the primary activities in this industry include developing video game software and hardware; retailing video game consoles and PCs; retailing video game accessories and add-ons; providing online game subscription services.

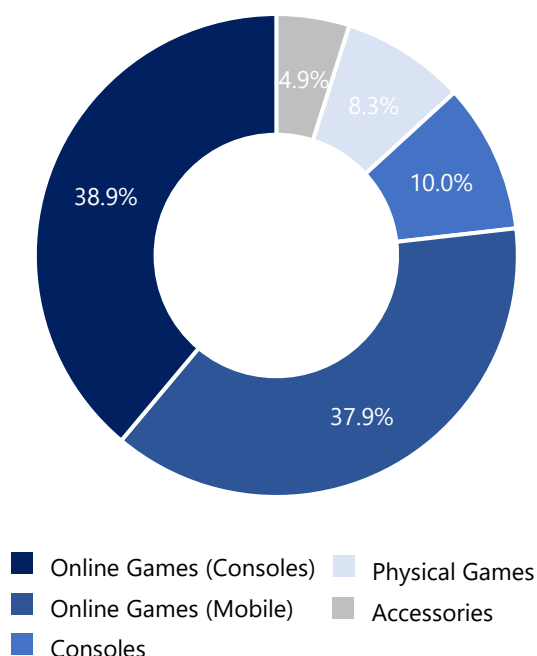
Video games have become more accessible to consumers in recent years, with greater emphasis on the social aspects of playing video games and software downloads reducing hardware distribution requirements.

Industry revenue is expected to increase at an annualized rate of 14.3% to \$85.9B over the five years to 2027, stimulated by rising disposable income levels. As consumer confidence grew during most of the period, more consumers completed discretionary video game-related expenditures, purchasing popular new game releases and new consoles. Furthermore, the entertainment value offered by video games in terms of lower costs-per-hour, when compared with alternative leisure activities, also encouraged higher spending. Many customers embraced less costly forms of video game entertainment, such as low-cost or free mobile and console games, during the period.

Key Players

Company	Market Cap	Description
Microsoft	USD \$2.13T	Xbox Game Studios is video game publisher and part of Microsoft
Activision Blizzard	USD \$62.8B	Leading global developer famous for <i>Call of Duty</i> franchise
Electronic Arts	USD \$36.3B	EA Sports franchise popularized sport-based video games
Take-Two	USD \$21.3B	Owner of Rockstar games, <i>Grand Theft Auto</i> franchise

Product Segmentation

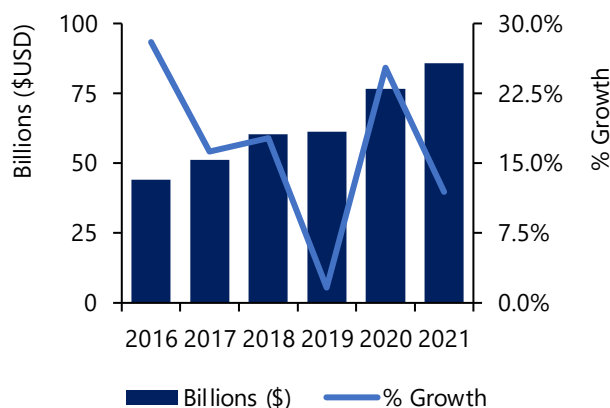


Developments & Trends

Industry is Thriving Post-Covid

Despite the negative effects of Covid-19 on the economy, it boosted demand in the U.S. video game industry as consumers searched for new forms of entertainment amid lockdowns. According to the Entertainment Software Association, 55% of those who play video games increased their play time during the pandemic. Moreover, the pandemic has turned video games into a family affair as 74% of parents are reported to have played with their child in 2020, which is up from 55% in 2019. This has led to increased sales in 2021 and will likely carryover into 2022. With many employees transitioning to work from home arrangements, video game enthusiasts found more time to enjoy their hobby and were more willing to spend on new video games and in-app purchases. As more people continue to favour a work from home environment this trend is likely to sustain itself post-Covid. Although, as many traditional video game stores were closed during the lockdowns, consumers restored to online purchases. The shift away from physical video game stores did not slow down in 2021 and is expected to continue into 2022. This has led major industry player GameStop to close hundreds of retail locations to focus on their e-commerce segment. From 2016-2021 revenue in the video game industry has grown at a 14.3% CAGR. The foregoing factors portend sustained revenue growth, which is expected to grow at a 9.4% CAGR from 2021-2026.

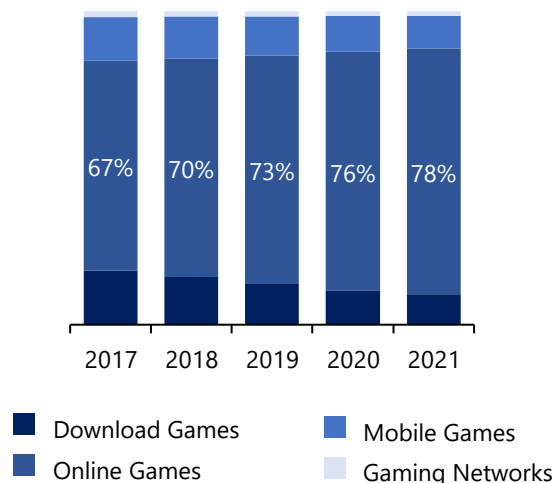
Video Game Industry Revenue Growth (2016-2021)



Growing Demand for Mobile Games

The U.S. video game industry has historically been dominated by online and console games, relegating mobile games to an inferior status. However, in recent years mobile games have grown in popularity. It has become especially popular among casual gamers who do not play competitively. Recent advancements in smartphone technology have been a boon for mobile game developers, allowing them to develop more sophisticated and engaging titles. Another factor that has contributed to the increasing demand for mobile games is the low initial cost, as consumers need only purchase a smartphone or tablet and majority of mobile games are offered free of charge. The Covid-19 pandemic has also fueled the increase in demand for mobile games as consumers looked for other entertainment sources in their spare time. This has led to increased in-app purchases as consumers sought to enhance their in-game experience. What's more, mobile games have become more user friendly and more compatible with social media, increasing their appeal with consumers. Since there are relatively low barriers to entry in this market vis a vis console or PC game developers the number of mobile game companies have grown at a prodigious 13.1% CAGR to 49,467 over the past five years.

Video Game Industry Revenue by Category (2017-2021)



Developments & Trends

Cross-Platform Play & Online Content

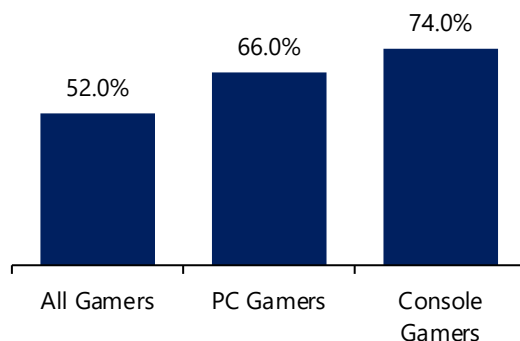
Cross-Platform Play: In recent years, game developers like Fortnite have leveraged cross-platform play, which has contributed to the developer's prodigious growth, amassing more than 350 million players across every major gaming platform. Cross-platform play has altered the competitive dynamics of the video game industry. Traditionally, consumers purchased consoles that offered exclusive games and services they wanted. Purchasing the same console as their friends had was important as it was the only way to connect with their friends in-game. Cross-platform play has reduced the exclusivity of the consoles as consumers have become less concerned as to the console they use. Consequently, this has altered the consumer loyalty structure. However, as few games currently offer cross-platform functionality due to the novelty of the technology, console makers have not yet born the full effects of this industry trend.

Online Content: Free-to-play games primarily generate revenue through in-game purchases and other forms of downloadable content (DLC) that improve the gaming experience. For quite a while these models have sparked controversy with gamers who scoff at pay-to-win structures, where individuals can pay for an in-game advantage over their peers. Despite the controversy, these models are still very popular among consumers as games such as Clash of Clans and Candy Crush and other like games, remain in top charts on the Apple App Store and Google Play Store. Furthermore, new DLC and appointment gaming, where special events are hosted during a period of time to entice gamers, have become the industry standard and are popular with consumers. Take-Two Interactive, which owns the Grand Theft Auto Series thrives on this model which shows little signs of slowing down. For instance, in 2016 to 2022 the monthly peak number of GTA players on steam alone grew from 93,000 to 154,000, which is an 8.7% CAGR.

Subscription Model

The subscription model is a new and growing trend in the video game industry, gaining popularity among developers and users alike. People want to experience video games in a way that is similar to alternative forms of entertainment such as TV shows and movies. Consumers yearn for direct access to a wide array of options available from one platform. As demand for physical video games have plummeted, causing companies like game stop to close hundreds of retail locations, paid online services have proliferated. The release of Apple Arcade is a prime example. Apple Arcade is a monthly subscription service that offers users a wide array of games for only the fixed monthly fee. This service allows up to six family members to play concurrently on any Apple device. Microsoft has also launched a subscription service that is linked to its consoles. Its Xbox Game Pass offers users unrestricted access to over 100 games, all for a low fixed monthly fee. Moreover, these models have been referred to as the "Netflix for video games". However, some developers worry about discoverability on a subscription-based platform given the wide array of competition that developers would have to contend with. Also, the fact that the platform provider may be a content creator and could influence the algorithm to its own advantage would put smaller developers at a disadvantage. Some analysts also contend that this model is unsustainable, as gamers would find it impossible to play all the titles they want by subscribing to only once service.

% of Users Subscribing to at Least One Subscription Service (2021)

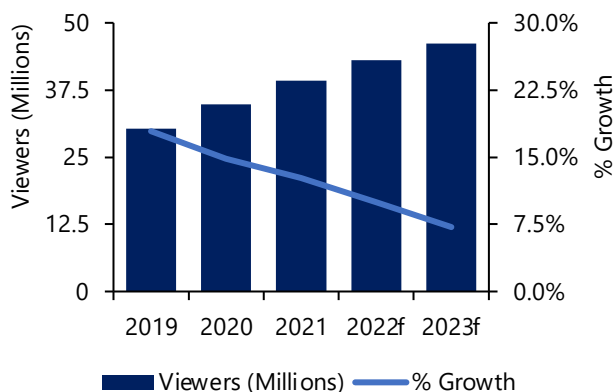


Developments & Trends

The Rise of Esports

Esports is short for Electronic Sports, which is a form of organized multiplayer video game competitions between professional gamers. As competitive games become increasingly integrated into popular culture Esports has a wide outlet to grow. In fact, there is expected to be 29.6 million monthly views of Esports in 2022, which is up 11.5% from 2021. Part of the reason for recent proliferation of Esports are the video gaming-specific streaming platforms such as YouTube Gaming and Twitch, which allow users to connect with individual players and teams. Traditional social media platforms have further strengthened these connections. Consequently, the investments in Esports by venture capital and private equity has grown at a rapid pace. For instance, from 2017 to 2018 the total dollars invested in Esports grew from \$490M to \$4.5B, which represents an 837% YoY growth rate. These investments are distributed to many different industry players such as Esports organizations, tournament operators, and digital broadcasters to name a few. Furthermore, the suspension of competitive sports due to pandemic lockdowns has made many fans turn to Esports as an alternative form of entertainment. This trend has continued through 2021 and is expected to carryover into 2022 and beyond. As more consumers turn to Esports and the number of competitions and prize funds grow, it is likely to bolster demand for video game software and hardware.

Esports Viewer Growth (2019-2023)



Software Developments

Motion Capture Software: The adoption of motion capture software has the potential to reduce video game production costs by reducing the total animation time. Essentially, motion capture records a live motion event and translates it into data that allows for a digital recreation of the action. Consequently, animation becomes easier and quicker, which reduces production costs. Additionally, this process has led to more sophisticated animation, which is evident through the noteworthy improvements in character facial movements and full-body interaction with the environment. This is especially important in sports and role-playing games, which are expected to generate a greater demand for this technology due to their reliance on humanoid characters.

Virtual Reality: Pandemic-fueled spending in the video game industry is also increasing demand for virtual reality platforms. Over recent years, virtual reality (VR) has attracted billions of dollars from investors that are optimistic about its potential success. Since the beginning of 2020, Facebook disclosed that over 60 games on its Oculus Quest and Quest 2 made over a \$1M with six making over \$10M. In 2020, Facebook said reorders for the Quest 2 were five times higher than they were for Quest 1, which was released in 2019. Although according to market research, VR game spending only represented 0.4% of total spending on gaming hardware and software in 2020. This is partly due to the limited user base. According to a survey conducted in March 2020, 73% of US gamers said owned a console, but just 29% claimed they owned a VR platform. This disparity is largely attributable to the high cost of VR platforms. However, VR makers such as Facebook are privy to this barrier and have responded by lowering the cost of Quest 2 by \$100. Although, a lot more progress will have to be made to obtain wide scale adoption of VR. Nonetheless, VR still has the potential to appeal to a wider audience of gamers, both casual and hardcore, by providing unique and immersive ways for players to interact with their favourite games.

Top Three Acquisitions of 2022

Microsoft Acquires Activision Blizzard – USD \$68.7B - Closing (est.) in 2023



This deal became the largest in the industry at \$68.7B. Microsoft Corporation is an American multinational technology corporation with an online gaming arm. Activision Blizzard, Inc is an American video game holding company.

Microsoft is to acquire Activision Blizzard for \$95.00 per share, in an all-cash transaction. Microsoft estimates the deal will close in the fiscal year ending June 2023. Regulators are scrutinizing this deal to issue antitrust approval. Regulators are concerned about Activision's Call of Duty Franchise, one of the largest and most popular games. Microsoft would become the third-largest gaming company behind Tencent and Sony.

Take-Two Interactive Acquires Zynga – USD \$12.7B - Closed on May 23, 2022



This deal became the second largest in the industry at \$12.7B. Take-Two Interactive Software, Inc is an American video game holding company which owns major publishing labels such as Rockstar Games and 2K. Zynga Inc. is an American video game and social networking platform developer.

Take-two acquired Zynga for \$9.86 per share - \$3.50 in cash and \$6.36 in Take-Two common stock with a 64% purchase premium. Take-Two is expected to realize approximately \$100M of annual cost synergies within the first two years of closing and over \$500M of annual Net Bookings opportunities over time.

Sony Interactive Entertainment Acquires Bungie – USD \$3.6B - Closed on July 15, 2022



This deal became the seventh largest in the industry at \$3.6B. Sony Interactive Entertainment (SIE) is an American International video game and digital entertainment company, wholly owned by Japanese multinational conglomerate Sony Corporation. Bungie, Inc. is an American video game company which was acquired by Microsoft in June of 2000.

Bungie became an independent subsidiary of SIE. Bungie will continue to make multi-platform games. The deal helps to accelerate growth plans for Bungie, enabling Bungie to hire talent to work on future games.

Expense Drivers

Product Development, Sales & Marketing

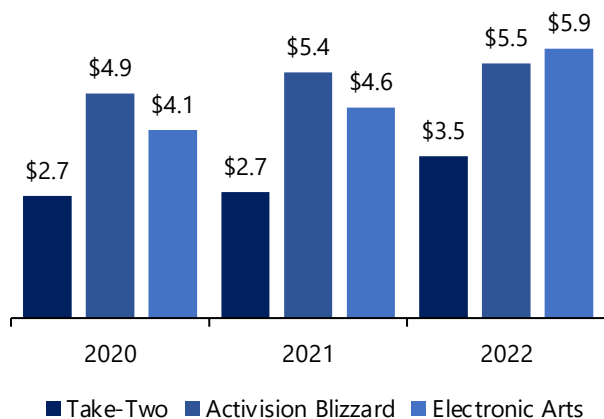
Software Development

As the industry experiences an increase in technological advancements, big operators are required to reinvest huge amounts of revenue into Product Development. In a way, this is inherent to the business as video games have a shelf life, after a handful of years most games experience a decline in sales and revenue to almost zero. For video game companies to remain competitive, they must constantly be releasing new and improved games with higher quality to improve the quality of play, which costs huge amounts of money. Software Development costs are incurred when under the practice of developing new games, technological feasibility of the software cannot be established until all product development and testing is complete, which includes the development of a working game model.

Advertisements and Distribution

Advertising is essential for video game companies to succeed, as well as the distribution of products to brick-and-mortar retailers such as GameStop, Best Buy, Microsoft, or online retailers such as Steam. As the video game industry shifts towards online gaming and digital products, more expenses are driven into advertising through online retailers, rather than in-store.

Operating Expenses Amongst Key Players (in USD\$ millions)



Intellectual Property Rights

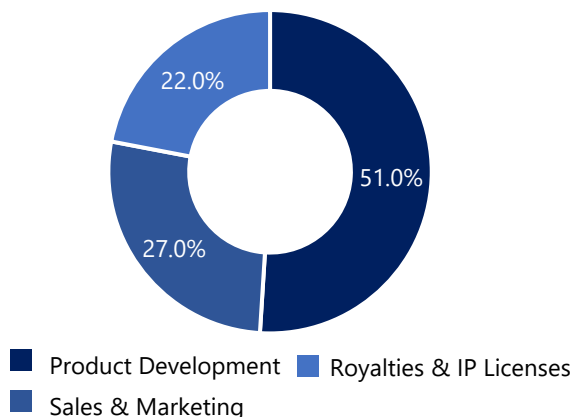
In Game Engines

To own the rights for use of trademarks, copyrights, software, technology, music, or other intellectual property, companies must incur the costs of license fees paid to intellectual property right holders. For example, EA Sports provides many products and services that incorporate intellectual property owned by major sports leagues, teams and players' associations. Competition for licenses and rights is intense, and the amounts paid to licensors and developers may increase respectively through higher minimum guarantees or royalty rates. Video games such as FIFA, NBA2k, or Madden NFL, can see over 300 individual partnerships and licenses to create sports ecosystems with players and organizations. Patent protection is also required to protect technical characteristics, allowing no other entity to introduce similar products or process covered by the patent right. With the introduction of new technologies and content monetization, licensing agreements and royalties are becoming increasingly complex. Large video game companies are competing to dominate market share through licenses and agreements.

Streaming and eSports

Since the start of the pandemic, the video game industry has seen a surge in streaming content. Major platforms include Twitch, Mixer, and YouTube; each increasing its brand recognition to maximize licenseability for streamers.

Average Industry Expense Breakdown

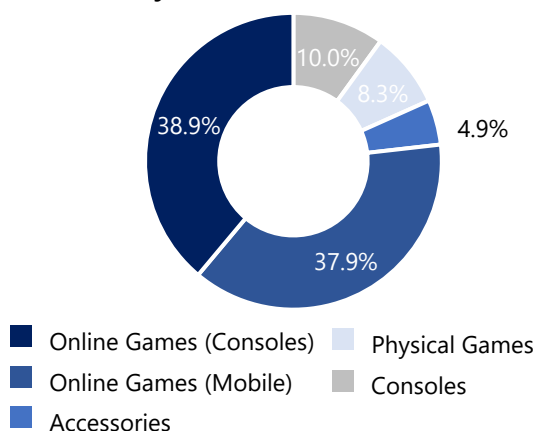


Revenue Drivers

Revenue Model

The video game industry's revenue is primarily generated by the sale of console games, PC games, used games and mobile downloaded games. Revenue growth has been enhanced by technological progression such as the development of smartphones and improvements in home entertainment equipment, televisions, and home theater systems. Investment in the development of accessories has also become a popular way to prop up revenue in the industry.

Industry Revenue Breakdown (2021)



Free-to-Play Business Model

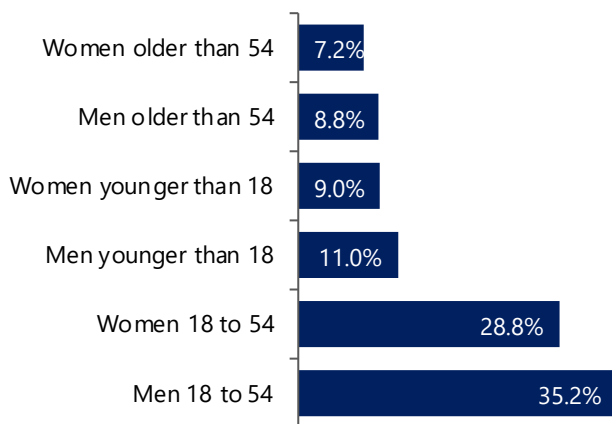
The free-to-play business model for online games allows players to access a significant portion of a game without paying. Instead, revenue is generated from advertisements or in-game sales by requiring payment for additional content and upgrades. As a result, free-to-play games allow game developers to build a player-base as soon as a game launches since there is no up-front cost, and then once players become attached to the game, they become more willing to make in-game purchases for premium services. Free-to-play games have become more popular and profitable than pay-to-play games which are online games that players must pay to access. In fact, free-to-play drives around 85% of all the industry's revenue. Video gaming companies are continuously working on optimizing the free-to-play model. Currently, the largest platform for free-to-play gaming is mobile, followed by PC which is the second-largest.

Trends Influencing Revenue

Shifting Demographics

Males younger than 54 years old represent the largest portion of gamers in the industry (46.2%). Though video gaming predominantly caters to the young male demographic, there is recent increases in focus on the female market. Females are a growing market in the industry representing 45% of gamers. Women over 18 years old now represent a much larger portion of the gamer population (36%) than boys under 18 (11%) who were previously the main target audience of video games. As such, making more gender-neutral games and increasing female character representations in games is becoming increasingly important for profit. COVID-19 has contributed to shifting demographics and making more people involved in video games.

Market Age Segments as a Percentage of Industry Revenue (2021)



2021 Industry Revenue **\$85.9 billion**

Shift to Online and Mobile Games

Though physical retailing of games and software and new consoles are still doing well, the shift of gamers online is driving industry growth. Online gaming has significantly increased to account for ~76.8% of industry revenue. Online gaming has seen rapid growth due to improved internet access, increased smartphone and computer usage, and rising population disposable income.

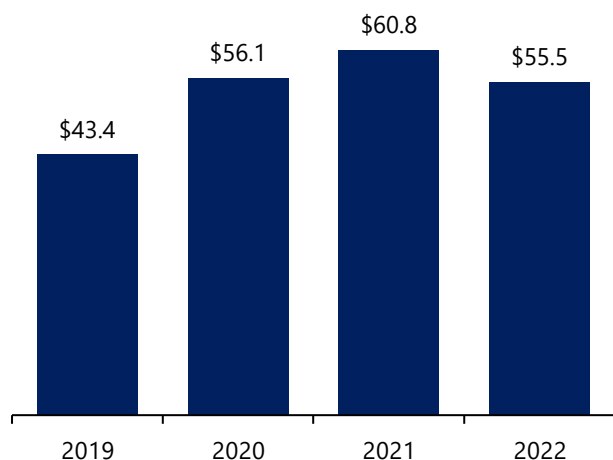
Short-Term Outlook

Impacts of Inflation

The short-term outlook for the US video game industry is less positive than the long-term. In 2020 and 2021, the industry saw a sharp surge in video game players and engagement as quarantined individuals sought ways to keep busy and be entertained while stuck in their homes. With schools and work returning to in-person, and more people choosing out of home entertainment means, the surge has leveled off. While, generally, the video game market is partially insulated from factors impacting the wider economy, higher pricing in everyday spending categories like food and fuel. The 8.5% inflation rate that the U.S. economy is facing has increased the cost of living in all sectors, and the video game sector is no exception to this. People are increasingly spending less money on unnecessary products, and the entertainment market is the top of the list.

U.S. consumer spending on video game hardware, content and accessories is now projected to reach \$55.5B in 2022, a decline of 8.7% compared to 2021. The overall industry is expected to see a 1.2% shrink. While not a big drop, it comes as a shock after years of consistent growth and the market being double what it was in 2015. It will also be the first decline in industry growth since 2015.

U.S. Video Game Spending (USD\$ billions)

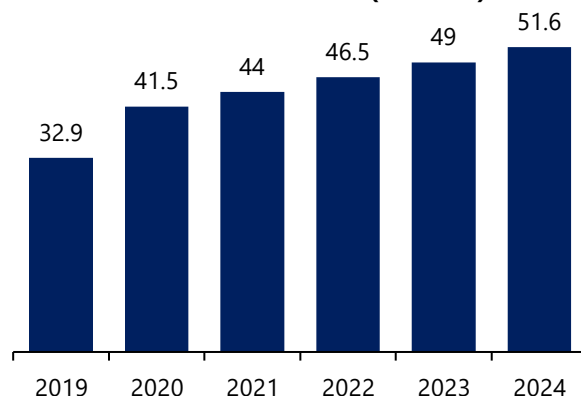


Growth in Gaming and Social Interaction

While there is an overall shrinkage in the video game industry, certain areas continue to experience growth. Desire for social interaction in 2020 pushed the demand for game streaming, where consumers could communicate with gaming influencers and other GVC viewers. GVC is expected to gain more than 4 million monthly viewers through 2023. While interest in connecting with people through video games may recede as the pandemic subsides, the element of social interaction in a virtual way will remain important in the coming few years.

Twitch emerged as the top competitor and viewers on the platform have been consistently growing over the last 3 years. Forecasts expect U.S. twitch users to continue to grow through 2023 and 2024.

U.S. Twitch Viewers (millions)



Mobile Gaming

Mobile gaming is the most prominent form of gaming in the U.S. and globally, overtaking both console and PC gaming. The key reason for mobile gaming's popularity is accessibility. Nearly everyone has a smartphone with access to games. The increasing demand for mobile games has shifted the industry to focus more on improvements and advancements in the AR, VR, cloud gaming, and 5G. Demand for mobile gaming is expected to continue to grow over the next few years at a steady pace.

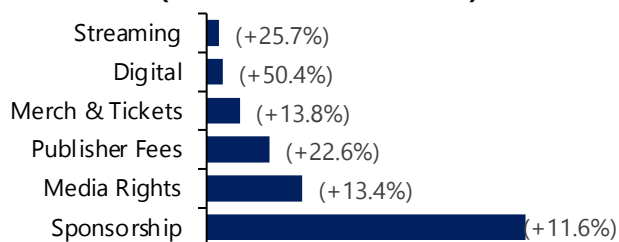
Long-Term Outlook

Lucrative Industry Growth Led by Esports

Digitization has been expedited by COVID-19 with physical game retailer giant GameStop closing over 1000 locations in its 2020 fiscal year. Digital offerings are growing quickly as digital discs, subscription services, and cloud gaming leave physical discs in the dust. Although offline games currently dominate the market with a 62% share, online games are expected to have the highest growth in the next 10 years. Growth factors include the multiplayer aspect which enhances the gaming experience, and social media/streaming platforms influencing people to game together.

Esports and livestream entertainment will play a substantial role in growth, helping to make games more mainstream and accessible to those outside the gaming community. Currently valued at USD \$2 billion, the Esports segment is expected to grow at a CAGR of 21.9% until 2030. More Gen Z and Millennials are turning to Esports as a professional career; 100 U.S. high schools offer Esports programs alongside traditional sports, and the University of California Irvine is among higher institutions with scholarships to top Esport athletes.

**2021 Esports Revenue Streams
(Global with YoY Growth)**



The industry is incredibly lucrative, with top revenue drivers being sponsorships, media rights, and publisher fees. Leading brands like Red Bull, Coca-Cola, Mercedes, Audi, and the NFL are examples of sponsors that support Esports leagues within North America. Livestreaming is poised to grow, with 7.47M active streamers in June 2022 on Twitch (livestream platform) alone. Revenue drivers are similar for live streamers, and opportunities will only increase as viewership grows as it has 45% YoY, with 24B hours of cumulative watch time on Twitch.

Technological Advancements in Games

The video game industry will undergo critical changes and developments as artificial intelligence, 5G, and technology become widespread. AI and machine learning have many uses in game development, such as decreasing workload and increasing content creation efficiencies with animations and non-player character speeches generated by AI.

The 5G network is expected by McKinsey to cover approximately 25% of the world by 2030; an integral role in the future of gaming. 5G will mitigate latency concerns and support the usage of augmented and virtual reality, features that depend on low latency. Current AR and VR technology has not met consumer demand as functionality is subpar and usage limited. By the decade's end, a more complete and immersive experience will be widespread due to tech developments.

End of the Console Wars

Competition between two video game console manufacturers, dubbed the console wars, has been ongoing since the 1980s, at first between Sega and Nintendo. Nowadays, the two most popular consoles are produced by Microsoft and Sony, with Nintendo lagging slightly behind. The console segment is expected to be obsolete by 2030 as a result of cloud gaming. As technology advances, there will be no need for hardware like consoles, made specifically for gaming. Instead, it will be integrated into cloud servers or as part of smart home ecosystems.

Revenue models can be expected to change, too. Subscription services for games are the new rave and something consumers are used to. Games on demand help make games more affordable and accessible. However, subscriptions, box sales, microtransactions, loot boxes, and passes all face problems, according to Riot Games VP Greg Street. Although difficult to predict, it will be crucial to note what methods game developers will use to fund the high costs of development, and the new aforementioned technology that will be implemented within the next 10 years.

Valuations

Mobile Game Developers

Mobile gaming is a leading factor behind the rapid growth of the U.S. and global video game industry. At the end of 2021, mobile games accounted for 78% and 45% of the total U.S. and global industry revenue respectively. In comparison, in 2017 mobile games accounted for 67% and 42% respectively. The growing dominance of mobile games is driven by increasing mobile penetration rates and smartphone usage. The U.S. mobile penetration rates, the number of gamers that play mobile games, was 40.68% in 2017 and is expected to grow to 51.43% in 2026. Additionally, smartphone ownership in the U.S. has grown from 35% in 2011 to 85% in 2021. Prolific growth in smartphone ownership offers fertile ground for growth in the mobile gaming industry, which is also aided by technological advances and nationwide lockdowns which resulted in more people turning to games as an alternative form of entertainment. Mobile game industry revenue in the U.S. is expected to grow to \$59.34B by 2027, implying a 7.31% CAGR.

Free-to-Play Model: Mobile games are the most profitable category in the video game industry, driven in a large part by free-to-play games (F2P). Revenue from mobile F2P games in North America has increased from \$10.8M in 2018 to \$13.2M in 2020, implying a 10.55% CAGR. Rapid growth is a product of the low entry barrier for players downloading a new game in concert with the increasing number of mobile games transitioning to a F2P format. The F2P format has become a lucrative monetization tool among mobile game developers. As players download F2P games, they have the option to improve their in-game experience by acquiring paid content. Consumers have shown a strong willingness to purchase in game content, which is a boon to mobile game developers. As of 2021, the average mobile gamer in the U.S. spent \$61 on smartphone games and 22% of the total mobile game players in the U.S. spent over \$100 on smartphone games. As this trend shows little signs of slowing, F2P will likely remain highly profitable for mobile game developers for years to come.

Comparables Set and Financials Snapshot

Valuation Statistics (in \$USD millions) Company Name	Share Price	Equity Value	Enterprise Value	EV/Revenue		EV/EBITDA		P/E	
				LTM	FY 23	LTM	FY 23	LTM	FY 23
Electronic Arts Inc.	\$133	\$37,052	\$36,514	5.1x	4.6x	20.6x	13.0x	28.9x	18.4x
Nintendo Co., Ltd.	\$434	\$50,492	\$38,937	3.1x	3.1x	8.7x	8.5x	9.6x	15.1x
Ubisoft Entertainment SA	\$47	\$5,793	\$6,422	3.0x	2.7x	13.4x	5.9x	17.4x	23.5x
Activision Blizzard, Inc.	\$80	\$63,148	\$56,024	7.3x	5.8x	21.6x	14.0x	27.5x	20.8x
Take-Two Interactive Software, Inc.	\$127	\$20,451	\$18,149	5.2x	2.8x	23.5x	14.4x	35.0x	22.0x
Maximum		\$63,148	\$56,024	7.3x	5.8x	23.5x	14.4x	35.0x	23.5x
75th Percentile		\$50,492	\$38,937	5.2x	4.6x	21.6x	14.0x	28.9x	22.0x
Median		\$37,052	\$36,514	5.1x	3.1x	20.6x	13.0x	27.5x	20.8x
25th Percentile		\$20,451	\$18,149	3.1x	2.8x	13.4x	5.9x	17.4x	18.4x
Minimum		\$5,793	\$6,422	3.0x	2.7x	8.7x	5.9x	9.6x	15.1x

The average revenue from the foregoing group of mobile game developers increased from around \$5.05B in 2017 to \$7.15B in 2021, implying a 9.09% CAGR. Gross margins grew from 37.2% in 2017 to 55.9% in 2021. This growth carried into EBIT margins which grew from 17.5% in 2017 to 25.1% in 2021. These higher margins reflect a trend towards simpler operating models which eliminate excess costs. For instance, one method developers use to reduce their costs of development is early CTR tests, which stand for click-through rate. This test enables developers to determine whether a particular game is economically viable early in the development process. Similar processes will continue to bolster margins and with a heightened demand for video games after nationwide lockdowns, the mobile game market is primed for even more growth.

Valuations

PC/Console Game Developers

PC console and game developers have fundamentally changed the gaming industry, most notably through the introduction of at home entertainment which challenged arcades. As time has progressed the major players, Microsoft, Sony, and Activision Blizzard, have introduced significant innovations into the industry pushing its growth over the last decade. This is inclusive of consoles like the Xbox by Microsoft and Activision Blizzard's World of Warcraft series which pulled in millions of users. Future growth in the industry will likely be a result of products driven by virtual reality platforms, artificial intelligence and cloud gaming.

Valuation Statistics (in \$USD millions) Company Name	Share Price	Equity Value	Enterprise Value	EV/Revenue		EV/EBITDA		P/E	
				LTM	FY 23	LTM	FY 23	LTM	FY 23
Sony Group Corporation	\$88	\$106,978	\$119,378	1.7x	1.5x	7.6x	8.4x	30.6x	16.8x
Microsoft Corporation	\$286	\$2,090,596	\$2,064,239	10.5x	9.4x	18.9x	19.0x	30.6x	27.2x
Electronic Arts, Inc.	\$133	\$36,603	\$36,065	5.1x	4.4x	16.2x	12.8x	32.0x	18.2x
Activision Blizzard, Inc.	\$80	\$63,367	\$56,493	7.3x	6.2x	19.5x	18.9x	32.9x	28.1x
Take-Two Interactive Software, Inc.	\$127	\$20,896	\$18,594	5.2x	2.8x	24.8x	17.3x	74.8x	23.4x
Maximum		\$2,090,596	\$2,064,239	10.5x	9.4x	24.8x	19.0x	74.8x	28.1x
75th Percentile		\$1,098,787	\$1,091,809	8.9x	7.8x	22.1x	18.9x	53.8x	27.7x
Median		\$63,367	\$56,493	5.2x	4.4x	18.9x	17.3x	32.0x	23.4x
25th Percentile		\$28,750	\$27,330	3.4x	2.2x	11.9x	10.6x	30.6x	17.5x
Minimum		\$20,896	\$18,594	1.7x	1.5x	7.6x	8.4x	30.6x	16.8x

Hardware Manufacturers

Hardware manufacturers have been in the gaming industry for the longest time in comparison to other segments. Major competitors in this space include Microsoft, Intel, Nvidia and Sony. These players lead the video game console accessory market, specializing in products like headsets, controllers, batteries and more. The PC hardware market is valued at USD \$70B globally. Many of the biggest players also differentiate themselves by creating their own lines of games or consoles, which significantly improves their market share.

Valuation Statistics (in \$USD millions) Company Name	Share Price	Equity Value	Enterprise Value	EV/Revenue		EV/EBITDA		P/E	
				LTM	FY 23	LTM	FY 23	LTM	FY 23
Microsoft Corporation	\$286	\$2,090,596	\$2,064,239	1.7x	1.5x	18.9x	19.0x	30.6x	27.2x
Sony Group Corporation	\$88	\$106,978	\$119,378	1.7x	1.5x	7.6x	8.4x	30.6x	16.8x
Nvidia Corporation	\$178	\$444,825	\$436,333	15.8x	14.3x	34.6x	32.3x	42.3x	37.4x
Intel Corporation	\$35	\$145,270	\$147,727	2.1x	2.3x	6.5x	6.8x	12.7x	15.5x
Advanced Micro Devices (AMD)	\$96	\$161,545	\$158,752	7.5x	5.8x	23.1x	21.2x	38.1x	22.9x
Corsair Gaming, Inc.	\$16	\$1599.72	\$1862.27	1.2x	1.2x	45.21x	34.22x	33.35x	18.6x
Maximum		\$2,090,596	\$2,064,239	15.8x	14.3x	45.2x	34.2x	42.3x	37.4x
75th Percentile		\$856,268	\$843,310	9.6x	7.9x	37.2x	32.8x	39.1x	29.8x
Median		\$153,408	\$153,240	1.9x	1.9x	21.0x	20.1x	32.0x	20.8x
25th Percentile		\$80,633	\$89,999	1.6x	1.4x	7.3x	8.0x	26.1x	16.5x
Minimum		\$1,600	\$1,862	1.2x	1.2x	6.5x	6.8x	12.7x	15.5x