

U.S. Video Game Industry

Technological Advancements and Privacy Issues

Fall 2020

Presented by Stephanie Schofield



Lundquist College of Business



Oregon Consulting Group

Exceptional Value for Clients, Transformative Experiences for Students

Industry Overview

Key Industry Statistics

Annual Revenue

\$60.4 billion

Projected Growth

2%

Annual Profit

\$10.6 billion

Average Profit Margin

17.6%

Employees

240,000

Businesses

42,438

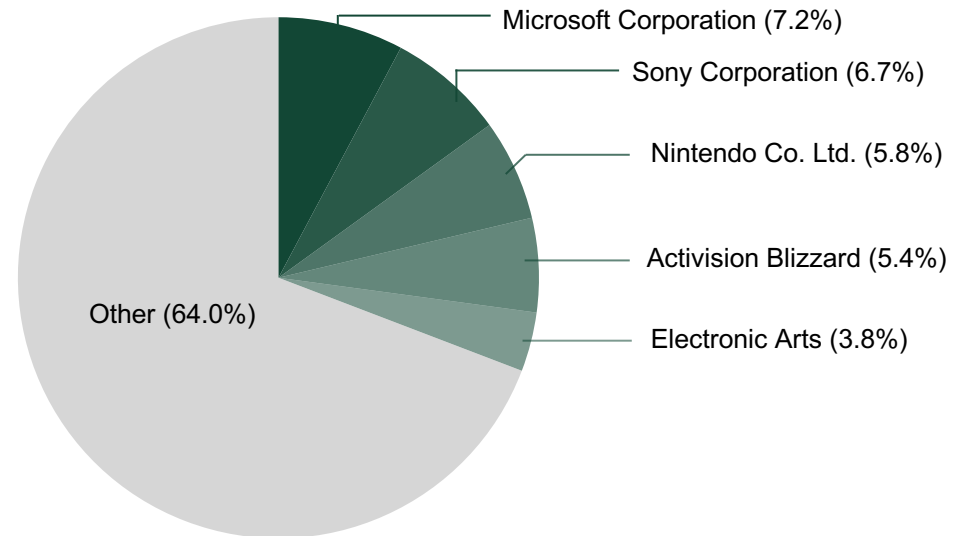
Global Players

2 billion

Industry Characteristics

With over two billion gamers around the world, the video game industry has a dominating presence within the global economy. The industry aims to make entertaining games for people of all ages, and includes PC, mobile, and console gaming as its three main categories.

Market Share Distribution



Threats Posed to the Industry

Technological Advancement



Rise of Virtual Reality



Consumer Demand for Artificial Intelligence Integration

Privacy Concerns



Hackers and Cyber Theft



Accessibility of Personal Information through Consoles



Re-Identification of Anonymized Data

Solutions to Privacy Concerns and Technological Advancement

**Problems the Industry
Needs to Address**

Solutions

**Technological
Advancement**

**Embracing Virtual
Reality and Immersive
Games**

**Developing Community-
Based Games**

Privacy Issues

**Developing and
Maintaining a Clear
Privacy Policy**

**Hiring Cyber Security
Engineers to Reinforce
Individual Gamer Privacy**

Increased Security Measures and Transparent Privacy Policies

To combat privacy issues, video game companies should implement robust security procedures to protect gamers and increase transparency about privacy policies.

How?

- ▶ Hire cyber security experts to further enhance user safety
- ▶ Make privacy policies more user-friendly and digestible to read

Why?

- ▶ Microsoft integrated more intensive security measures in its Xbox systems, and now it's nearly impossible to find Xbox credentials on the web.
- ▶ A study done by Sprout Social media analytics in 2018 found that 90% of consumers will stop purchasing from brands that lack transparency about their business practices.

Embrace New Technology and Community-Based Games

The video game industry should adopt advances in technology and hire teams to develop them.

How?

- ▶ Incorporate Text-to-Speech software
- ▶ Develop multisensory, community-based games

Why?

- ▶ The time spent recording voice actors and actresses can be completely removed using Text-to-Speech software and allow more time to develop characters using A.I.
- ▶ COVID-19's isolating effects has led to a demand for VR.
- ▶ Pokémon Go, a virtual reality and community-based game, has over 60 million users in 2020, proving the demand for these types of games.

The Rapid Technological Advancements and Privacy Issues Posing Threats to the Domestic Video Game Industry

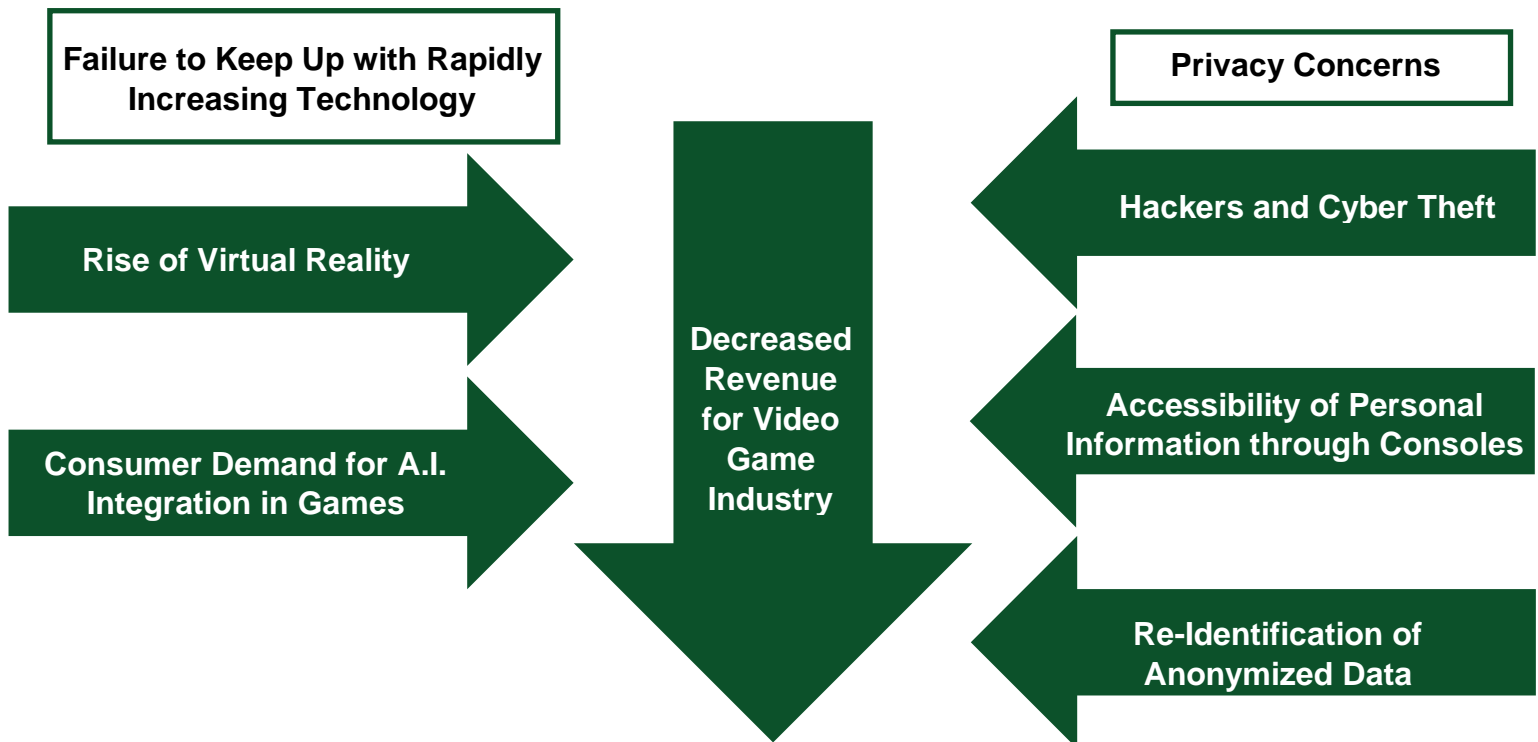
Background

With over two billion gamers around the world, the video game industry has a dominating presence within the global economy (Beattie, 2020). The industry includes the broader operations of video games, including gaming consoles, games for those consoles, and games for other devices like personal computers (Masters, 2020). The industry aims to make entertaining games for people of all ages, and includes PC, mobile, and console gaming as its three main categories (Stewart, 2019). The annual revenue is at \$60.4 billion, with a 12.1% annual growth from 2015-2020 and an expected annual growth of 2% from 2020-2025 (Masters, 2020). The industry is expected to generate \$196 billion in revenue by 2022 (Beattie, 2020). There are 183 thousand businesses in the industry that employ 241 thousand people (Masters, 2020). In order of market share, the major players include Microsoft Corporation (7.2%), Sony Corporation (6.7%), Nintendo Corporation (5.8%), Activision Blizzard (5.4%), and Electronic Arts (3.4%) (Masters, 2020).

Despite COVID-19 negatively impacting many industries, the video game sector is predicted to grow throughout and beyond the pandemic (Masters, 2020). With millions at home and not commuting, the industry's shift in the 1980's to downloadable content (DLC) and online services (Cook, 2016) has insulated the industry from shocks to retail and manufacturing channels (Masters, 2020). Microsoft reported a 130% increase in multiplayer-engagement across March and April (Smith, 2020). Twitch, the most popular video game streaming platform, saw a 50% increase in gaming hours watched from

March to April, and Steam, a popular PC gaming platform, hit its highest user count at over 20 million since March (Smith, 2020).

Current and Predicted Issues in the Market



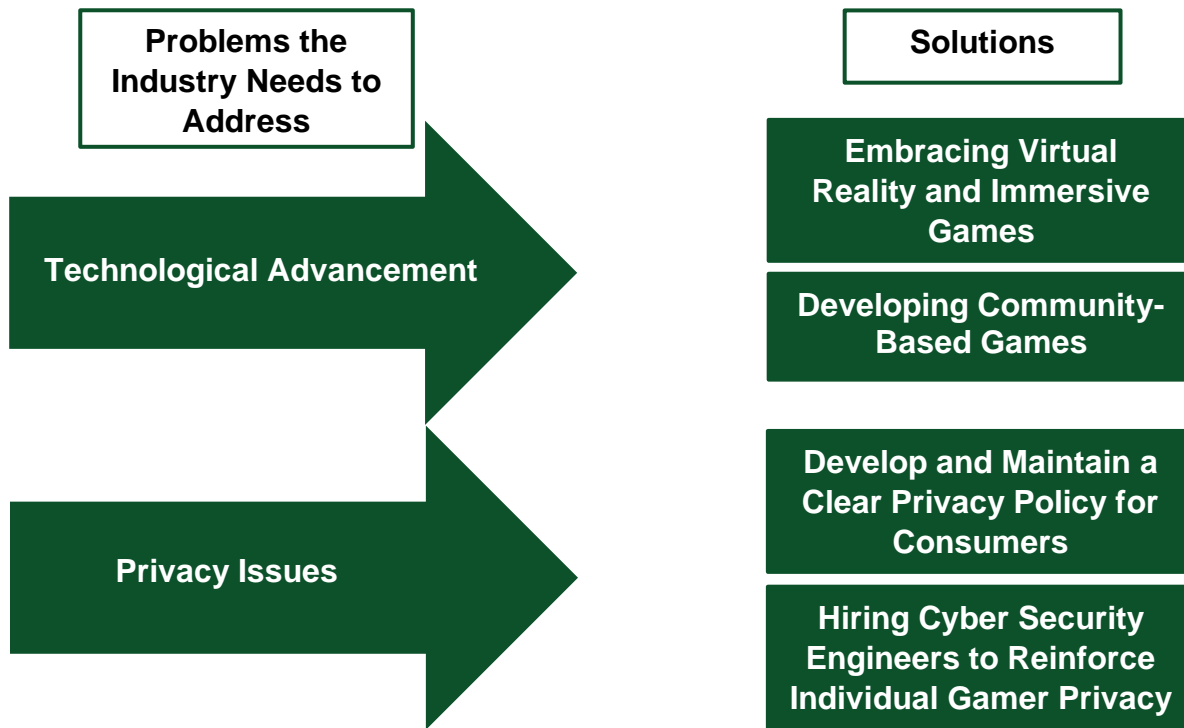
Some of the main problems associated with the video game industry include privacy concerns surrounding hacking and cybertheft, as well as keeping up with fast-paced technological innovation.

Privacy issues have proliferated over the past decade due to mining of player data. Hackers have executed over 12 billion attacks against gaming websites within a 17-month period (Greene, 2019). In fact, the retro gaming site “Emuparadise.com” suffered a data breach of over 1.1 million accounts in April 2018 (Abrams, 2019). Once players reveal their personal information through their gaming accounts, hackers can easily reidentify those players with that data. Before starting a new game, players will

normally see a consent agreement asking about collecting their data from the game. Most players will consent but might not recognize the amount of personally identifiable information they are revealing by playing these games. It's now possible to confirm a person's identity with a few attributes, and no gaming company can promise confidentiality with each player's data (Kolata, 2019). For example, Konami Digital Entertainment produced the popular horror game *Silent Hill: Shattered Memories*, that opens with a psychometric evaluation that changes the game's content based on the player's answers (Stafford, 2019). The psychological evaluation measures whether the player is likely to cheat on their partner, automatically respect authority figures, and more. These direct and personal responses pose large privacy risks to players and could potentially cause mistrust of the industry as a whole.

Another issue in this industry is the rapid pace of technology changing how games are played. For example, it has become an expectation among consumers to include AI in the development of non-player characters, which requires highly skilled programmers and game designers. AI is also used to make games more addictive, so companies who have not utilized this technology have significantly lower average time spent in their games (Stevenson, 2018). This industry is also facing competition from tech companies investing in Virtual Reality (VR) technology. Facebook and Google, and startups like Magic Leap, have been funding efforts to develop VR hardware and games (Koss, 2020). Many consumers are looking for new ways to play games and a pandemic keeping them home bound is expected to increase that desire. The expectation to include evolving artificial intelligence and virtual reality within games can pose difficulties for the industry to constantly remain in touch with consumer needs.

How to Address Privacy Concerns and Technological Innovation



In order to combat privacy issues, video game companies should implement robust security procedures to protect their gamers. They can do this by hiring cyber security experts to further enhance user safety throughout their games and consoles. Microsoft has integrated vigorous security measures within Xbox, and now it's become nearly impossible to find Xbox credentials on the web (Greene, 2019). Companies should also frame their privacy policy in a way that consumers cannot oversee how their data is being used. Being transparent about what permissions and expectations are in place for each user can lead to higher consumer confidence. In fact, a study done by Sprout Social media analytics in 2018 found that 90% of consumers will stop purchasing from brands that lack transparency about their business practices (Brown, 2018). Providing a more transparent privacy policy and reinforcing security measures against

hacking will help the video game industry continue to thrive beyond the COVID-19 pandemic.

Video game companies could also benefit from embracing new technological advances and hire teams to develop and harness them. With the predicted demand for AI integration in games, companies should move to incorporate Text-to-Speech software and data analytics tools to enhance their production lifecycles (Ambalina, 2020). Game developers also have the opportunity to capitalize off the demand for virtual reality and COVID-19's isolating effects by moving towards community-based VR games. Game sensations, such as *Pokémon Go*, who have moved in this direction have proven highly successful. With over 60 million users in 2020, this serves as just one example of adapting to the social interaction and entertainment consumers crave (*Pokémon GO Revenue and Usage Statistics, 2017*). By keeping in touch with the latest technology, top industry players can satisfy an evolving consumer demand.

Works Cited

- Abrams, L. (2019, June 2019). *Gaming Site Emuparadise Suffered Data Breach of 1.1M Accounts*. Retrieved from <https://www.bleepingcomputer.com/news/security/gaming-site-emuparadise-suffered-data-breach-of-11m-accounts/>
- Ambalina, L. (2020, May 11). *5 Predictions for the Future of AI in the Gaming Industry*. Retrieved from <https://www.aitimejournal.com/@limarc.ambalina/5-predictions-for-the-future-of-ai-in-the-gaming-industry>
- Beattie, A. (2020, May 7). *How The Video Game Industry Is Changing*. Retrieved from <https://www.investopedia.com/articles/investing/053115/how-video-game-industry-changing.asp>
- Bolding, J. (2019, January 13). *Steam now has 30,000 games*. Retrieved from <https://www.pcgamer.com/steam-now-has-30000-games/>
- Brown, E. (2018, August 24). *9 out of 10 consumers will stop purchasing from brands that lack transparency*. Retrieved from <https://www.zdnet.com/article/9-out-of-10-consumers-will-stop-purchasing-from-brands-that-lack-transparency/>
- Cook, J. (2016, October 2). *From Expansion Packs to DLC: The Evolution of Additional Video Game Content | The Artifice*. Retrieved from <https://the-artifice.com/expansion-packs-dlc-evolution-additional-video-game-content/>
- Greene, M. (2019, July 25). *The video game industry is a black hole for cybersecurity*. Retrieved from <https://venturebeat.com/2019/07/24/the-video-game-industry-is-a-black-hole-for-cybersecurity/>

- Kolata, G. (2019, July 23). Your Data Were ‘Anonymized’? These Scientists Can Still Identify You. Retrieved from <https://www.nytimes.com/2019/07/23/health/data-privacy-protection.html>
- Koss, H. (2020, February 3). *What Does the Future of Gaming Look Like?* Retrieved from <https://builtin.com/media-gaming/future-of-gaming>
- Masters, Nick. (2020, June). “NN003 Video Games in US.” Retrieved from www.ibisworld.com/united-states/market-research-reports/video-games-industry/.
- McCarty, J. (2020, February 25). *Crash Course: Is The Video Game Market Heading For Another Disaster?* Retrieved from <https://medium.com/super-jump/crash-course-is-the-video-game-market-heading-for-another-disaster-bff8e65d9e73>
- Paul, K. (2018, December 9). *The next big risk to your privacy: Your child’s video-game habit.* Retrieved from <https://www.marketwatch.com/story/the-next-big-risk-to-your-security-is-your-kids-video-game-habit-2018-12-06>
- Pokémon GO Revenue and Usage Statistics (2020).* (2017, August 8). Retrieved from [https://www.businessofapps.com/data/pokemon-go-statistics/#:~:text=Apptopia%20Pok%C3%A9mon%20GO%20stats%20showed,12%20million\)%20were%20active%20daily.](https://www.businessofapps.com/data/pokemon-go-statistics/#:~:text=Apptopia%20Pok%C3%A9mon%20GO%20stats%20showed,12%20million)%20were%20active%20daily.)
- Smith, N. (2020, May 12). *The giants of the video game industry have thrived in the pandemic. Can the success continue?* Retrieved from <https://www.washingtonpost.com/video-games/2020/05/12/video-game-industry-coronavirus/>

- Stafford, P. (2019, May 9). *The dangers of in-game data collection*. Retrieved from <https://www.polygon.com/features/2019/5/9/18522937/video-game-privacy-player-data-collection>
- Stevenson, J. (2018, November 29). *6 Ways Machine Learning will be used in Game Development | Logikk*. Retrieved from <https://www.logikk.com/articles/machine-learning-in-game-development/>
- Stewart, S. (2019, October 22). *Video game industry silently taking over entertainment world*. Retrieved from <https://www.ejinsight.com/eji/article/id/2280405/20191022-video-game-industry-silently-taking-over-entertainment-world#:~:text=According%20to%20the%20latest%20figures>
- Wiltshire, A. (2020, April 16). *When are game companies truly being anti-consumer?* Retrieved from <https://www.pcgamer.com/when-are-game-companies-truly-being-anti-consumer/>