Play
The video game industry prospered during the COVID-19 pandemic. While organized competitive gaming has arguably existed for decades, advancements in gaming technology, accessibility, streaming capabilities, and popularity have led to an astronomical rise in its commercial potential and perceived legitimacy in recent years.

**Examples**

Online chess became a streaming obsession last year, due in part to Netflix hit “The Queens Gambit” and to a new generation of streamers on Twitch, the online gaming platform. Between January and September, viewers consumed more than 40 million hours of live-streamed chess. The League of Legends World Championships clocked more than 139 million hours of viewership. Twitch, the primary streaming portal for eSports in the Western world, logged a staggering 17 billion hours worth of content last year, a full 83% higher than its previous record in 2019. (Twitch was acquired by Amazon in 2014.) When Rep. Alexandria Ocasio-Cortez (D-NY) joined high-profile Twitch gamers for a round of “Among Us,” the stream broke records: 435,000 viewers watched to see who was the imposter.
eSports continued

**DISRUPTIVE IMPACT**

Even before the pandemic, 2020 was set to be a blockbuster year in gaming and eSports. New consoles from PlayStation and Xbox weren’t just minor upgrades to hardware, they were generational leaps with drastically improved graphics processing and motion control. eSports tournaments weren’t held in person, but plenty of tournaments were held and without football games and boxing matches to bet on, eSports betting found wide new audiences last year. In 2020, eSports companies raised more than $2 billion, up 115% in value from 2019, according to Quantum Tech Partners. As audience numbers for eSports continue to climb, platforms will compete to outbid each other for media and streaming rights for events like League of Legends World Championships and Fortnite concerts. eSports will soon rival television as a form of mainstream entertainment because of its interactive and immersive nature. Advertisers are taking notice. Nike sponsors several professional teams. As the sport matures, so will concerns about fair play. E-doping is already an issue in professional eSports leagues, where Adderall and Ritalin are banned substances and using a cheat-code can get you banned for life.

**EMERGING PLAYERS**

- 100 Thieves
- Bethesda Game Studios
- Catalyst Sports & Media
- Bayes Holding
- Overwatch League
- Twitch
- Y Media Labs
1ST YEAR ON THE LIST

**eSports Training Academies**

**KEY INSIGHT**
As the eSports ecosystem grows, new academies are launching to recruit and train prospective professional players and coaches.

**EXAMPLES**
Amateurs hoping to make the leap to professional eSports can’t just excel at certain games—they need to understand the gaming business, how to manage their time, and how to develop content and interact with fans. Several colleges and universities, including Ohio State and George Mason, offer undergraduate degree programs in eSports.

**DISRUPTIVE IMPACT**
eSports pros earn upwards of $250,000 a year, while performance coaches can earn $100,000 or more. Given the market size and projected growth, amateurs hoping to play professionally are seeking practical training. Davon Williams, a computer scientist with the U.S. Army Network Enterprise Technology Command, has launched the Centry Academy of Gaming and Esports (CAGE), an online school that plans to offer degrees in eSports specializations: coach, player, streamer and announcer.

**EMERGING PLAYERS**
- High School Esports League
- National Association of Collegiate Esports (NACE)
- League of Legends
- Centry Academy of Gaming and Esports

The Collegiate Star League offers college eSports scholarships.
KEY INSIGHT

Games pose a unique business challenge: when a company has no new console or blockbuster title, players hop over to other platforms. New subscription models hope to keep consumers loyal—and away from competition.

EXAMPLES

Subscription models from Apple, Google, Sony and Microsoft are changing the traditional dynamics of games. After spending hundreds of dollars on consoles, players have to shell out $20 - $60 or more on individual games. In a world where mobile phone games cost a fraction of that price, gaming companies have reconsidered subscriptions as a way to generate revenue over longer periods of time. Google launched its game streaming service Stadia in August 2019, with subscriptions to its portfolio of games. Microsoft’s Game Pass launched in 2017—it’s like Netflix, but for games. For between $5 - $15 per month, subscribers get access to hundreds of games, including hot new titles on the day of release.

DISRUPTIVE IMPACT

The same challenges streamers are facing will befall gaming companies in the very near future. Game fans don’t have unlimited budgets, and they’ll need to choose between subscription packages.

EMERGING PLAYERS

• Microsoft’s Game Pass
• Google Stadia
• PlayStation Now
• Apple Arcade

Microsoft Game Pass features hundreds of titles.
KEY INSIGHT

The most popular video games today have one thing in common: they never end. Rather than traditional games with a beginning, middle and end, many of these video games are more like online worlds, where players can participate whenever and for however long they like, with success measured in achievements instead of a single, finite objective.

EXAMPLES

Infinite gameplay means you never have to log off, and you’ll never defeat the final boss. In these never-ending games, players can also take part in hybrid real-world experiences like going to a concert or even buying real estate. The Sims and Minecraft are examples of longstanding games that allow players to build their own realities. More recent titles like Fortnite and League of Legends are universes that players can log into at any time for a fully immersive and interactive break from the real world. Classic games like Super Mario, Pokemon and Grand Theft Auto are being redesigned and re-released in this unrestricted format to the delight of gamers everywhere.

DISRUPTIVE IMPACT

How do you “win” a game if it has no end? Newer game design elements perfect addiction triggers and dopamine rewards to shape and alter our psychological state and behavior. Our lives will be increasingly gamified, as never-ending games merge with the activities that already form part of our lives. Connected exercise platforms, such as Peloton bikes, use built-in game elements (badges, contests and leaderboards). Meditation apps like Headspace nudge and reward us (somewhat paradoxically) to engage with them. Workplace optimization tools also encourage us to strive for new achievements, with progress and rewards being symbolized in digital form.

EMERGING PLAYERS

- EVE Online
- Roblox
- Fortnite
- League of Legends
- Minecraft
- Twitch

Fortnight launched in 2017 and quickly became one of the world’s most popular games.
Elite athletes are using more and more sophisticated tech tools to improve training and performance. Stadiums now use audience analysis and drones to improve the live and televised experience. Much of this sport technology could eventually end up in the hands of consumers looking to improve their health and well-being.

**KEY INSIGHT**

Professional NFL players are retiring early, citing a history of concussions and the risks of chronic traumatic encephalopathy, or CTE. Last year, seven-time Pro Bowl linebacker Luke Kuechly retired from the NFL at just 28 years old, and he wasn’t the first to hang up his helmet before 30—quarterback Andrew Luck retired in 2019 at age 29. As competitive sports become more intense, data-tracking tools could help prevent the kinds of injuries that have led to these early retirements. Football equipment manufacturer Riddell now makes smart helmets outfitted with tiny sensors that transmit impact data in real time. Coaches on the sidelines can see the effects of single and multiple impacts sustained during a game, and they receive alerts if the numbers get too high.

**EXAMPLES**

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**DISRUPTIVE IMPACT**

Smart equipment is being developed for nearly every sport. The Wilson X Connected basketball is embedded with sensors and tracks patterns in shooting. Adidas makes a smart soccer ball with integrated sensors that can detect speed, spin, strike, and trajectory when the ball is kicked. Meanwhile stadiums employ drones and video for everything from audience sentiment analysis to cleaning up garbage after games. Italian equipment manufacturer Technogym is developing next-generation machines that incorporate a user’s biometric data, which can be tracked before, during and after exercise. Emerging research in reduced-gravity activity is helping athletes re-acclimate after injury. AlterG’s anti-gravity treadmill automatically reduces the natural weight of athletes to as little as 20% of body weight in precise 1% increments for low-impact, pain-free movement. Smart sports equipment could reach a market size of $12 billion over the next five years. The use of advanced technology in both analytics and performance is likely to alter the state of many contemporary sports.

**EMERGING PLAYERS**

- AlterG
- Babolat
- Puma
- Riddell
- Technogym
- Under Armour
- Wilson
Connected Toys

**KEY INSIGHT**
Connected toys collect and use data for interactive experiences. While they’re fun for kids, lawmakers and academic researchers have raised questions about privacy.

**EXAMPLES**
Thirty-six years ago, animatronic Teddy Ruxpin bears sang, told stories and even blinked. Priced at $69.99 (roughly $175.54 in 2021 dollars), the dolls had audio cassette decks built into their backs; specially-formatted tapes controlled the servo motors for Teddy’s eyes and mouth, and also played audio recordings. For about the same price today, Cozmo is a small, self-aware, A.I.-powered robot with a base personality, and the more you play with him, the more that personality evolves. Made by San Francisco-based company Anki, the toy expresses anger when he loses a contest, and his eyes turn into upside-down U’s to show joy. Facial recognition allows it to remember faces and call people by their names. Sony’s Aibo is a lifelike robotic dog that responds to touch—scratch his neck and his tail will start wagging. You can teach him tricks, like fetching a ball and giving a high-five. Aibo also recognizes his owners using computer vision technology.

**DISRUPTIVE IMPACT**
The upcoming generation of connected toys will use more data and will include even more personalization. Advancements in computer vision, voice and sound recognition, and spatial computing will result in richer, more interactive experiences. As connected toys evolve, they will rely less on mobile devices and will instead connect to the cloud. This means increased bandwidth needs—and, very likely, new privacy concerns. In the U.S., 92% of children now have an online presence by the time they are 2 years old, according to AVG. Tech companies and toy manufacturers are still learning how to balance children’s privacy, which is required under the Children’s Online Privacy Protection Act (COPPA), with play.

**EMERGING PLAYERS**
- Bandai Namco Holdings
- AWS
- Sony
- Wonder Workshop

Sony’s connected toy dog Aibo doubles as a smart home assistant.
2ND YEAR ON THE LIST

Kids Fitness Games and Toys

KEY INSIGHT

Parents, increasingly concerned that their children aren’t getting enough exercise, are looking to toys and games that nudge kids into more active lifestyles. They’re also borrowing from the quantified-self movement to monitor kids’ health and wellness.

EXAMPLES

Approximately one in three children in the U.S. are now considered to be overweight or obese, according to the U.S. Centers for Disease Control and Prevention. Researchers point to a lack of physical activity as a contributing factor. As a result, games and toys that encourage healthy behaviors are an attractive market for toy developers, fitness trackers and game designers. The Gululu interactive smart water bottle and health tracker for kids encourages them to drink more water. The bottle includes an LED screen with a preloaded game. The more water kids drink, the further their character will get in the game. Parents can monitor their children’s hydration in real-time using a mobile app.

DISRUPTIVE IMPACT

Nintendo’s Ring Fit Adventure is a connected fitness add-on for the Nintendo Switch console. The game takes the player on an athletic adventure through worlds, villages and gyms. Cute monsters, dispatched by arch-nemesis Drageaux, challenge players to battles: simple yoga poses, squats, crunches and planks. During the quest, players jog or run in place. Kids who play the game spend an average of 30 minutes in active movement. On the horizon: massively multiplayer online fitness games, in which kids can connect with each other and go on active adventures together.

EMERGING PLAYERS

- Bandai Namco Holdings
- Garmin
- Nintendo

Nintendo’s Ring Fit Adventure teaches kids how to do basic exercises.
KEY INSIGHT

Connected toys and games require data to work properly, and privacy experts are concerned about how children’s data are being collected, used and safeguarded.

EXAMPLES

In the U.S., the Children’s Online Privacy Protection Act (COPPA) makes it illegal to collect data from children under the age of 13 without first obtaining a parent’s consent, and in 2017 the Federal Trade Commission updated COPPA guidelines to specifically include toy manufacturers. For connected toys, the terms of service are shown during set up, but most people don’t read the fine print. As a result, they are agreeing to data sharing, whether they realize it or not.

DISRUPTIVE IMPACT

The privacy risks posed by connected toys mirror those adults face whenever using phones, smart cameras and speakers, and other connected devices. But our tolerance for data exposure shifts when children are involved. The smart toy industry is growing rapidly. Some estimate the market could be worth more than $18 billion by 2023, but privacy regulation is lagging behind technological innovation.

EMERGING PLAYERS

• Federal Trade Commission
• Mozilla
• U.S. Public Interest Research Group

Parents and privacy advocates are increasingly concerned about the data being collected as children play with connected toys and games.
Digital Addiction

KEY INSIGHT
Digital products rely on habit-forming features for success, but a growing body of research highlights the negative impacts that those sticky features can have on mental health and well-being.

EXAMPLES
The World Health Organization added gaming disorder to the next edition of the International Classification of Diseases in May 2019, making it one of the few behavioral health addictions to gain formal recognition. In the tech realm, companies are responding with design changes to reinforce healthy device use. Instagram experimented with removing public like counts to discourage users from comparing themselves to others. Several startups are pursuing mini-smartphones designed with smaller screens and stripped down interfaces to encourage users to look at their devices less often. Google and Apple continue to develop features that help users monitor their digital well-being and screen time.

DISRUPTIVE IMPACT
As concern about digital addiction increases, consumers will become less tolerant of so-called “dark patterns” that use psychological cues to induce greater consumption. Every business model for media hinges on commanding the attention of an audience. As social attitudes toward technology shift, product designers should be mindful that they’re not perceived as eliciting detrimental behavior or harming the physical and mental health of their users.

EMERGING PLAYERS
- Center for Humane Technology
- Twitch
- TikTok
- Snap
- World Health Organization