

From Gachapon To Video Game DLC: A Brief History of Loot Boxes, Gambling and the Law

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While the concept of wagering on a randomized outcome (i.e., gambling) has been part of popular culture for some time, it has only recently made its way into video games. Yes, video slot machines and similar electronic betting devices have existed in casinos since the 1970s, but access to those machines is typically regulated by law. In the United States, for example, one must be at least eighteen (18) years of age to enter a gambling establishment; in most U.S. States the gambling age is twenty-one (21).

Video games, on the other hand, are in virtually every home in some form or another, whether it be via console, smart phone or personal computer. To date, and with exception of online casino games, access to most video games has not been strictly limited by age or other criteria¹. That, however, may be changing. In this chapter we will explore the history of loot boxes, their impact on gaming culture, and the prospects for their global regulation going forward.

I. The History Of Loot Boxes

Loot boxes or loot crates began to emerge in video games in the early 2000s. Loot drops, on the other hand, were introduced a little bit earlier. Beginning in the late 1990s, games like *Diablo* (Blizzard Entertainment) began to introduce the concept of dropping 'loot' (i.e., treasure) for players that had defeated a particular enemy within the

¹ While ratings systems exist in many countries, such as the Entertainment Software Rating Board (ESRB) rating system in the United States, these systems do very little to prevent access.

game². These drops were free, and awarded simply for playing the game. Loot drops often included things like better equipment for your characters, more experience points for leveling up your characters, and the like.

The concept of monetizing loot drops likely began in Japan, with games like *MapleStory* (Nexon), *Zhengtu Online* (Zhengtu Network) and *Puzzles & Dragons* (GungHo Online Entertainment)³. The basis for the idea was rooted in Japanese ‘gachapon’ machines – vending machines that dispensed random capsule toys. *Zhengtu Online* or “*ZT Online*”, for example, was a free-to-play computer game released in 2007 that utilized loot boxes as a monetization system. The huge success of *ZT Online* effectively legitimized loot boxes as a revenue stream for video game developers. In the years that followed, more and more free-to-play games began to emerge on computer and mobile phone platforms.

One of the first console games to utilize loot boxes was Electronic Arts’ soccer simulation game, *FIFA ’09* (Electronic Arts). This game presented loot boxes in the form of ‘card packs’ that the player could purchase to create a team – essentially a virtual pack of baseball cards (but in this case, soccer cards). These ‘card packs’ could be purchased with in-game currency earned through playing the game, or through real money via ‘microtransactions’ (i.e., individualized purchases made inside the game or through the console ‘store’). This model eventually morphed into the ‘FIFA Ultimate Team’ game mode, and today virtually all popular sports games have an ‘Ultimate

² “Why Video Game Loot Is So Addictive, According To The Creators Of *Diablo*,” (<https://kotaku.com/why-video-game-loot-is-so-addictive-according-to-the-c-1846695147>), Kotaku (Apr. 16, 2021).

³ “Behind the addictive psychology and seductive art of loot boxes” (<http://www.pcgamer.com/behind-the-addictive-psychology-and-seductive-art-of-lootboxes/>), PC Gamer (Sept. 28, 2017).

Team' mode. Loot boxes began to show up in 'shooters' around this time as well, including in games like *Counter-Strike: Global Offensive* (Valve Corporation), *Call of Duty: Advanced Warfare* (Activision), and *Overwatch* (Blizzard Entertainment).

The public backlash to loot boxes began around 2017, when Electronic Arts came under fire for loot boxes within the tactical shooter game *Star Wars Battlefront II*. The concern there was that loot boxes were required to win the game – this monetization tactic became known as 'pay-to-win,' and was the subject of harsh criticism by gamers, and examinations by governments around the world. It was at this point that loot boxes started to draw comparisons to gambling, and calls for regulation became more and more vociferous.

II. Loot Boxes In Video Games

In order to really understand the concern with loot boxes, we first need to look at how they have been implemented in specific games. Below we examine their implementation in sports games (*NBA 2K*), 'loot shooters' (*Fortnite*), and first person tactical shooters (*Overwatch*, *Star Wars Battlefront*). Loot boxes have also been implemented in various other types of games including card battle games (*Hearthstone*, *Gwent: The Witcher Card Game*) and multiplayer online battle arena (MOBA) games (*DOTA 2*, *League of Legends*, *Heroes of the Storm*).

A. NBA 2K

Following Electronic Arts' success with 'FIFA Ultimate Team' in 2009, 2K Games/Take-Two Interactive introduced the 'MyTeam' game mode to the basketball simulation game *NBA 2K13* in October 2012. Much like 'FIFA Ultimate Team,' 'MyTeam' was built as a digital card collecting mode. *NBA 2K13* was available on the

PlayStation 3, Xbox 360 and the Nintendo Wii, along with computers and mobile devices. Prior to that (in August 2010), Electronic Arts' popular football franchise introduced 'Madden Ultimate Team' in *Madden 11*, which took the 'FIFA Ultimate Team' experience into the realm of American Football. And in March 2012, Sony released *MLB 12 The Show*, the first version of that franchise to include 'Diamond Dynasty,' a pack-focused gameplay mode⁴. So, by 2012, loot boxes were beginning to become the standard in sports games.

In the current version of *NBA 2K (NBA 2K22)*, players compete both against each other online, and against the game, in the 'MyTeam' game mode. Players start with one or more free 'card packs' that contain relatively modest cards. Cards are graded on a scale that increases from Gold all the way up to Dark Matter (in between are Emerald, Sapphire, Ruby, Amethyst, Diamond, Pink Diamond and Galaxy Opal). In most cases, NBA bench players are graded Gold, stars are graded Emerald, Sapphire or Ruby; the other tiers are mostly reserved for historic or Hall of Fame level payers (think Allen Iverson). Loot boxes in the form of card packs may be purchased using either in-game currency ('MyTeam Points'), or actual currency which is converted to in-game currency called Virtual Currency ("VC"). To keep things simple, the more packs you buy, the better your team will be⁵.

In early versions of 'MyTeam,' there was no way of knowing the odds of pulling a Galaxy Opal Kobe Bryant from a card pack versus pulling an Emerald Ja Morant.

⁴ "What MLB The Show's 'Diamond Dynasty' Is, and Why It Isn't Another Ultimate Team," (<https://kotaku.com/what-mlb-the-shows-diamond-dynasty-is-and-why-it-isn-5886163>), Kotaku (Feb. 17, 2012).

⁵ This is a bit of an oversimplification, in that purchasing ten (10) card packs using VC does not necessarily guarantee you a Diamond or Pink Diamond player, but along the way a player typically amasses several Sapphire, Ruby or Amethyst players to improve their basketball team incrementally.

Perhaps in response to criticism and growing governmental concerns, card packs now include an odds listing (added in *NBA 2K21*), which tells the player exactly the odds of pulling each tier of card (i.e., 5% chance of Pink Diamond care per pack). The ‘MyTeam’ mode is also a card collecting game, and there are additional cards awarded for completing specific sets of cards. For example, a Pink Diamond Larry Bird card may be awarded to the player for completing a set of seven (7) Boston Celtics cards of varying value from Emerald up to Diamond. These sets often require players to buy multiple card packs to complete them. These types of ‘set completion’ goals within video games were banned in Japan in 2012, as violating consumer protection laws; the Japanese call this “Kompu Gacha” (meaning ‘Complete Set’)⁶. While ‘MyTeam’ is not necessarily a pay-to-win game mode, the randomized nature of the card packs, their cost, and the set completion goals have raised some concerns that the system includes aspects of gambling.

B. *Fortnite*

The ‘looter shooter’ game genre has exploded in the past ten (10) years, and games like *Fortnite* (Epic Games) and *Counter Strike: Global Offensive* were key to that success. In this type of game, the player is ‘dropped’ into a relatively confined space, and must eliminate all the other players to emerge victorious. Along the way, players can search for and collect beneficial items within the virtual environment (i.e., ‘looting’). For example, in the Player Versus Player (PvP) mode of *Fortnite* called “Battle Royale,” players are dropped from the sky onto an island with various buildings, vehicles and

⁶ “What the UK can learn from the Far East’s battle with loot boxes,” (<http://www.eurogamer.net/articles/2017-10-19-what-the-uk-can-learn-from-the-far-east-battle-with-loot-boxes>), Eurogamer (Oct. 20, 2017).

geographic features. The navigable terrain of the island shrinks as the game goes on, forcing players more and more to the center. Along the way, players can investigate and try to find better weapons, health boosts, and ‘Loot Llamas,’ which are loot boxes awarded simply for playing the game. In the Battle Royale mode, Loot Llamas run around the environment and can be chased and even destroyed for loot, such as health boosts and ammunition; they do not, however, provide anything that improves character performance (such as weapons or abilities). Alternatively, in the Player Versus Environment (PvE) mode of *Fortnite* called “Save The World,” Loot Llamas can be purchased using in-game currency (called “V-Bucks”), or real money, and contain randomized character and weapon upgrades⁷. *Fortnite* is a free-to-play game, but players are encouraged to purchase ‘Season Passes’ to automatically unlock various cosmetic items including ‘skins’ (different looks for your player) and ‘emotes’ (in-game dances that your player can perform on command). Season Passes are one of the primary economic drivers for the game; loot boxes play a much smaller role in the overall monetization scheme. However, since the contents of the loot boxes in *Fortnite* still cost real money, and since the game is played primarily by minors, consumer protection concerns still persist.

C. *Overwatch*

Overwatch is a ‘shooter’ that involves two teams of four players each. Teams are dropped into opposite sides of an environment (e.g., building or city), and the objective is to eliminate the other team. Each team member has unique skill sets and abilities,

⁷ In response to litigation (*Zanca v. Epic Games*, discussed below), Epic Games stopped selling ‘blind’ loot boxes in “Save The World” mode in 2019; now Loot Llamas in that mode are “X-Ray Llamas” and show the player what is inside.

and the best *Overwatch* teams combine various characters with diverse ability sets. The implementation of loot boxes within *Overwatch* does not impact gameplay – loot boxes award only cosmetic items such as ‘skins’ and ‘emotes’. Loot boxes are given to players for free, at intervals corresponding to different ‘experience’ goals or levels. However, loot boxes may also be purchased using in-game currency (“Credits”) or real currency. Some cosmetic items are extremely rare, making them desirable to players, and thus driving the demand to open ‘paid’ loot boxes. In 2017, then President and CEO Mike Morhaime said that Blizzard tried to avoid loot box and pay-to-win labeling of *Overwatch* by limiting rewards to cosmetic items⁸. However, since players cannot use real world funds to purchase specific cosmetic items, and because the rate at which Credits are earned in *Overwatch* is somewhat slow, there remains an incentive to ‘gamble’ on buying loot boxes.

⁸ “Blizzard's Mike Morhaime Talks Loot Boxes, Battle.net, Mobile, And More” (<http://www.gameinformer.com/b/features/archive/2017/11/07/blizzard-39-s-mike-morhaime-talks-loot-boxes-battle-net-blizzcon-and-more.aspx>), Game Informer (Nov. 7, 2017).

D. *Star Wars: Battlefront*

The one game that has received the most press in the argument over loot boxes is probably *Star Wars: Battlefront II* (“*Battlefront II*”), released in November 2017 by Electronic Arts (“EA”). While *Battlefront II* is an online, multiplayer, first person ‘shooter,’ it is a markedly different game from games like *Overwatch* and *Fortnite*. It is more tactical in presentation, and in that way is more akin to games like *Call of Duty* and *Battlefield*. The original *Star Wars: Battlefront*, released in 2015, had adopted a ‘Season Pass’ model (like *Fortnite* current uses) because it has split the player base between those that paid for the added content and those that did not.⁹

Battlefront II really spurred the pay-to-win discussion when it eliminated Season Passes and introduced loot boxes that could be purchased to improve a player’s weapons and overall skill set. For example, you start out with a Rebellion or Empire character with very basic skills and laser blasters. As you progress through the game, you earn loot boxes which contain ‘Star Cards’ that improve to your character’s abilities and weapons. While it was fairly difficult to earn ‘Star Cards’ from playing the game (like in *Overwatch*), it was very easy to obtain them by purchasing loot boxes. This would have otherwise resulted in many players simply investing in loot boxes, and dominating the game. Just before the game’s official release, Disney (who owns the *Star Wars* brand), in response to public outcry, demanded that EA disable all microtransactions in the game.¹⁰ A few months later, in March 2018, EA updated

⁹ “EA’s *Star Wars Battlefront II* backtrack shows the limitations of loot boxes” (<https://www.theverge.com/2017/11/14/16648218/star-wars-battlefront-2-ea-loot-crates-explained>), The Verge (Nov. 14, 2017).

¹⁰ “Electronic Arts Pulls Microtransactions From ‘*Star Wars Battlefront II*’ After Fan Backlash” (<https://www.wsj.com/articles/electronic-arts-pulls-microtransactions-from-star-wars-battlefront-ii-after-fan-backlash-1510936871>), The Wall Street Journal (Nov. 17, 2017).

Battlefront II to eliminate all pay-to-win elements; Star Cards could only be earned by an experience-point-based progression in the game, and loot boxes were limited to cosmetic items only.¹¹ The turmoil surrounding *Battlefront II* caused the government of Belgium to investigate the phenomenon¹², and to ultimately (in 2018) ban loot boxes from being sold to citizens who were not of gambling age.¹³

III. The Pros And Cons Of Loot Boxes

In the past twenty (20) years, add-on content known as Downloadable Content (“DLC”) has become a key part of the video game industry. Back in the good old days of the Sega Genesis (1989) and Nintendo 64 (1996), games were sold exclusively in physical packages (e.g., cartridges or discs). What came on that disc or cartridge was everything you needed to play the game; there was no ability to update games after purchase, or add content to them. Today, game content is delivered primarily through digital download, and even where discs are still used, games can be updated digitally over the Internet. For many games, DLC is offered at the time the game is first purchased, at some later date, or both. Often times, there are various versions of a game offered, with the versions including DLC being sold at a significantly higher price than the standard version of the game. As one example, the “75th Anniversary Edition” of *NBA 2K22* sold for \$100.00 and came with the game, as well as various DLC

¹¹ “‘Star Wars Battlefront II’ Loot Box Overhaul Detailed” (<https://web.archive.org/web/20180316180120/https://www.rollingstone.com/glixel/news/star-wars-battlefront-ii-loot-box-overhaul-detailed-w517937>), Glixel (Mar. 16, 2018); Rolling Stone (<https://www.rollingstone.com/glixel/news/star-wars-battlefront-ii-loot-box-overhaul-detailed-w517937>).

¹² “Belgium’s gambling regulators are investigating Battlefront 2 loot boxes” (<https://www.pcgamesn.com/star-wars-battlefront-2/battlefront-2-loot-box-gambling-belgium-gaming-commission>), PCGamesN (Nov. 15, 2017).

¹³ “Belgian Gaming Commission recommends criminal prosecution over illegal loot boxes,” (<https://www.gamesindustry.biz/articles/2018-05-10-belgian-gambling-commission-lays-out-recommendations-over-illegal-loot-boxes>), *GamesIndustry.biz*. (May 10, 2018).

including 100,000 in Virtual Currency (“VC”), 10,000 MyTeam points (which can be used to obtain player cards and card packs), 22 MyTeam card packs, as well as ‘Sapphire’ Kareem Abdul-Jabbar, Dirk Nowitzki, and Kevin Durant cards. The game itself without the DLC retailed for about \$70.00 on the PlayStation 5 and Xbox Series X|S ‘next generation’ consoles. So, DLC in that case accounted for about \$30.00 per game in additional revenue for the publisher. Then, of course, there is the DLC that is purchased after game launch, such as VC purchased within *NBA 2K* or via the PlayStation or Microsoft (Xbox) Stores; VC can be used to purchase various items within *NBA 2K*, including MyTeam card packs (i.e., loot boxes).

So why have games companies turned towards DLC over physical game cartridges and discs in the past 10-15 years? Commentators have identified at least two main reasons. First, there are the continually rising development costs for games, coupled with player desire for publishers to improve gameplay and graphics on a yearly basis¹⁴. The development budgets for today’s biggest games are on par with budgets for major motion pictures, and production quality matches or exceeds motion pictures. Second, video game prices have remained relatively flat over the past 30 years¹⁵. In 1989, over 30 years ago, a Sega Genesis game cartridge sold for about \$50.00¹⁶; today a PlayStation 4 game sells for only \$10.00 more (i.e., \$60.00). These two factors combined to motivate game publishers to look for post-launch monetization methods, and DLC was born. During this same period of time, more and more games went

¹⁴ Honer, “Limiting the loot box: overview and difficulties of a common EU response,” *Interactive Entertainment Law Review*, Vol. 4, No. 1 (2021), pp. 63-78 (Edward Elgar Publishing).

¹⁵ *Id.*

¹⁶ “The Cost of Gaming Since the 1970s,” (<https://techraptor.net/gaming/features/cost-of-gaming-since-1970s>), Tech Raptor (Mar. 19, 2020).

'online,' requiring game publishers to maintain hundreds of computer servers to facilitate online gameplay. This server maintenance cost is yet another factor that contributed to the emergence of DLC.

DLC is typically delivered to the user through an online marketplace such as the PlayStation Store or the Microsoft (Xbox) Store, but may also be delivered through in-game purchases. Recent studies show that DLC accounts for between 25-50% of a game publisher's total revenue, and much of the publisher's profit is made on DLC (as opposed to on the game itself). The rise of DLC has created new revenue streams for video game developers, and has helped the industry grow in many ways.

Loot boxes are one type of DLC. Loot boxes may be described as any type of in-game package that provides a randomized reward to the player. For example, a loot box could include a more powerful weapon to use in a shooting game (like *Fortnite*), or a better athlete for your virtual sports team (like in *NBA 2K*). To acquire loot boxes, players must typically either spend real money, or spend time completing in-game challenges. For many, the allure of short-cutting the time and effort required to complete in-game challenges by spending a few dollars on a loot box is tempting. As highlighted above, some even refer to these systems as 'pay-to-win' because the player can pay actual money to make their player or team better, and thus increase their chances of winning the game. This is in contrast to the player who spends no money on the game, but rather spends time in-game leveling up their character or team. However, even if you the type of player who likes to 'grind it out' without spending any money on loot boxes, there are some games where certain content is only attainable through the investment of real money.

Loot boxes are not guaranteed to provide you the equipment or benefit you desire, however. When you purchase a loot box, the contents are randomized, with the high-value items only in a select few loot boxes (e.g., 1 in 50). In this way, some have argued that there is an element of gambling to loot boxes. If you don't get the content you want the first time you spend money on a loot box, you may continue to spend more and more until you acquire the content you want (i.e., that really awesome player for your *NBA 2K* team, or an epic pump shotgun for your *Fortnite* character).

Republican Senator Josh Hawley's "Protecting Children from Abusive Games Act" (the "Act") which is discussed in further detail below, sought to outlaw 'pay-to-win' schemes in games. The Act described 'pay-to-win' as purchases that: (a) eases a user's progression through (game) content; (b) assists a user in accomplishing an achievement; (c) assists a user in receiving an award; (d) permits a user to continue to access content; or (e) provides a user with a competitive advantage (in games featuring competition with other users). In short, the Act sought to eliminate games where players feel like they must spend real money to gain advantages over the game or other online players. Interestingly, the Act had a specific carve-out for loot boxes and transactions that provided only 'cosmetic' alterations to the player's in-game character (as in *Overwatch*).

Some commentators have even compared loot boxes to slot machines, arguing that they both offer visual stimulation along with variable rewards. Loot boxes may be considered part of a 'compulsion loop' to keep players invested in a particular game¹⁷.

¹⁷ See FN 2, *supra*.

Such compulsion loops are known to contribute towards video game addiction, which is often compared to gambling addiction. Psychologists call the principle ‘variable rate reinforcement’ – the player is “working for reward by making a series of responses, but the rewards are delivered unpredictably.”¹⁸ Dr. Luke Clark, Director at the Center for Gambling Research at the University of British Columbia, describes the phenomenon as follows: “We know that the dopamine system, which is targeted by drugs of abuse, is also very interested in unpredictable rewards. Dopamine cells are most active when there is maximum uncertainty, and the dopamine system responds more to an uncertain reward than the same reward delivered on a predictable basis.”¹⁹ “Modern video games then amplify this idea by having many overlapping variable ratio schedules... You’re trying to level up, advance your avatar, get rare add-ons, build up game currency, all at the same time. What this means is that there is a regular trickle of some kind of reinforcement.”²⁰ But does the *potential* for addiction necessarily mean that loot boxes should be banned? As we examine further below, Belgium and The Netherlands think so, but the United States and Japan (at least to date) do not. It is fair to say, however, that the potential addictive nature of loot boxes must be considered when video games that include them are being marketed to, and played by, minors.

On the flip side, video game publishers devote significant financial resources to developing content, and some would argue that they should have the right to sell DLC such as loot boxes to consenting adults who understand the risks. If an educated adult wants to purchase a pack of virtual basketball cards for \$4.99 to improve their ‘MyTeam’

¹⁸ *Id.*

¹⁹ *Id.*

²⁰ *Id.*

team in *NBA 2K*, and skip the hours of gameplay time that might otherwise be required to obtain those cards, they should have the ability to do that. On the flip side, where minors are playing games that include loot boxes, the issue becomes thornier. In the absence of laws or regulations, parents need to discuss the purchasing of loot boxes with children, insuring that they understand that nothing is guaranteed for money spent. While the enactment of legislation avoids those difficult conversations in the home, it also means that video game publishers will lose out on a significant, viable and well-established revenue stream. Loot boxes account for millions of dollars per year in sales for popular games, and removing that profit center could have significant ripple effects throughout the gaming industry. It could, for example, result in layoffs, decreased investment in content development, and higher game prices. It could also potentially result in decreased interest in video games and esports in general.

So what is on the ‘cards’ for loot boxes? We will all have to wait and see how individuals, the video game industry, and different governments around the world react in the coming years. Video game industry analysts seem split on the issue, with some believing that regulation of some kind is inevitable, and others positing that such legislation is unlikely to pass anytime soon. Still others believe that the industry will band together and formulate their own solution to the current situation (e.g., stronger parental controls, more and clearer odds disclosures, alternate game modes, etc.). Below we take a closer look at how different countries around the world have examined loot boxes in the past ten (10) years.

IV. Attempts At Regulation

Countries around the world have all taken relatively different approaches to loot boxes. Some countries, like Japan, apply consumer protection laws to loot boxes, as opposed to gambling laws. Other countries, like Belgium and The Netherlands, have applied gambling laws strictly, and effectively banned loot boxes in video games. Below are some details on exemplary governmental responses to the loot box phenomenon.

A. Japan & China

Loot boxes began in Japan, so they have been dealing with the concerns surrounding them perhaps longer than any other country in the world. As discussed above, Japan outlawed ‘set completion’ goals within video games (“Kompu Gacha”) in 2012. This resulted in many game publishers removing Kompu Gacha from their games, but not necessarily removing loot boxes. Loot boxes still exist in Japan, but they are closely monitored under consumer protection laws. China has taken things a bit farther, banning the sale of loot boxes to children aged eight (8) years old and younger in 2019, and setting maximum monthly spending limits for persons eighteen (18) and under²¹. Prior to that, China had required game publishers to release odds disclosures for loot boxes, and limit the number of loot boxes that a player can purchase in a single day²². As a result of these regulations, Blizzard Entertainment removed the ability to purchase loot boxes within *Overwatch* for Chinese players²³.

B. Australia

²¹ “People’s Republic of China Legal Update: The Notice on the Prevention of Online Gaming Addiction in Juveniles (Published October 25, 2019, Effective November 1, 2019)” (<http://dro.dur.ac.uk/29958/1/29958.pdf>).

²² “Loot Box Design 2.0 – Complying with China’s New Rules” (http://www.gamasutra.com/blogs/HenryFong/20190507/342062/Loot_Box_Design_20_Complying_with_Chinas_New_Rules.php), Gamasutra (May 8, 2019).

²³ “Overwatch China changes loot box purchases to dodge gambling laws” (<http://blizzardwatch.com/2017/06/06/new-way-buy-overwatch-loot-boxes-china/>), Blizzard Watch (June 6, 2017).

Rather than seeking to ban loot boxes, Australia has taken the approach of requiring clear labeling on games that include loot boxes. Governmental measures began in earnest in June 2018, when the Australian Environment and Communications References Committee initiated an investigation into loot boxes²⁴. The Report of the investigation was released later in 2018, and found that loot boxes were “psychologically akin to gambling²⁵.” The Committee recommended that games with loot boxes be clearly labeled to warn of “in-game gambling content²⁶.” Recently (in July 2021), Andrew Wilkie of the Australian Parliament announced his intention to introduce a bill that would require video games with loot boxes to be automatically rated by the Australian Classification Board (ACB) as “R18+,” and thereby restricted for sale to minors (persons under 18 years old)²⁷. This announcement followed a similar announcement by U.S. Senator Josh Hawley (in May 2019) that he would introduce a bill to the U.S. Congress to restrict sales of loot boxes to only persons over 18 years of age. As discussed further below, the Hawley bill expired on January 3, 2021; the Wilkie bill is apparently still pending in Australia.

C. Brazil

Following the lead of countries like The Netherlands and Belgium, Brazil opened an inquiry into loot boxes in 2021. The Brazilian Justice Department accepted an

²⁴ “Australian Senate backs loot box investigation,” (<https://www.pcgamer.com/australian-senate-backs-loot-box-investigation/>), PC Gamer (June 28, 2018).

²⁵ “Australian investigation finds loot boxes are “psychologically akin to gambling,” (<https://www.gamesindustry.biz/articles/2018-09-17-australian-investigation-finds-lootboxes-are-psyholgocially-akin-to-gambling>), GamesIndustry.biz (Sept. 17, 2018).

²⁶ *Id.*

²⁷ “An Australian MP Is Introducing A Bill To Ban Loot Boxes For Under 18s,” (<https://www.kotaku.com.au/2021/07/an-australian-mp-is-introducing-a-bill-to-ban-loot-boxes-for-kids/>), Kotaku (July 12, 2021).

inquiry by the National Association of Child and Adolescent Defense Centers (ANCD) to ban loot boxes as a form of gambling (which is illegal in Brazil)²⁸. At the time, they were considering daily fines for game publishers exceeding \$690,000.00. Loot boxes are still being analyzed by the government of Brazil, and so far, game publishers have not been forced to remove loot boxes for games directed to Brazilian citizens, but that may be coming in the near future.

D. India

India is one of the largest gaming communities in the world, and it only continues to grow. Much of the gaming in India is done on mobile device (i.e., smart phones), primarily because most everyone has one, and the cost of personal computers and gaming consoles works to exclude many people. Even with those restrictions, yearly gaming revenue in India will soon pass the One Billion Dollar (\$1B) mark, if it has not already²⁹. The Indian IT Ministry and Indian Gaming Commission have yet to say anything regarding the legality of loot boxes³⁰. In 2021, a legislature in Southern Indian (the Karnataka Legislature) introduced amendments to the Karnataka Police Act of 1963, aimed at loot boxes and looking to “curb the menace of gaming through the internet, mobile app.”³¹. No laws or regulations covering loot boxes have been enacted in India to date, and no detailed investigations have been performed.

E. Europe

²⁸ “Brazilian Justice Opens Process to Ban Loot Boxes,” (<https://archive.esportsobserver.com/brazilian-justice-loot-boxes/>), The Esports Observer (April 1, 2021).

²⁹ “Are Loot Boxes Legal In India?,” (<https://pcriver.com/games/are-loot-boxes-legal-in-india.html>), PCRiver.com (Feb. 11, 2022).

³⁰ *Id.*

³¹ “Games of risk: Gambling laws look to shut out loot boxes,” (<https://www.deccanherald.com/opinion/panorama/games-of-risk-gambling-laws-look-to-shut-out-loot-boxes-1043857.html>), Deccan Herald (Oct. 25, 2021).

To date, Belgium and The Netherlands are the only European nations to ban loot boxes. As highlighted above, Belgium did so in 2018 after an almost two (2) year investigation of the games *FIFA 18*, *Overwatch*, *Counter-Strike: Global Offensive* and *Star Wars Battlefront II*, ultimately finding that the loot box systems in the majority³² of those games were ‘games of chance’ and subject to Belgium’s gambling laws. After this finding, the game publishers faced steep fines if loot boxes remained in games, so many removed them for Belgian citizens. As one example, 2K Games removed the ability to buy *NBA 2K18* ‘MyTeam’ card packs with real-world funds for Belgian players, though they could still be purchased through in-game currency.³³ Also in 2018, the Dutch Gaming Authority of The Netherlands examined ten (10) games and issued a Report declaring loot boxes in four (4) of those games illegal³⁴. The ten games were not named specifically but “were selected based on popularity on a leading platform that streams videos of games and players.”³⁵ The Report resulted in specific loot box functionality being disabled for Dutch players in games like *Counter-Strike: Global Offensive*, *Fortress 2* and *Dota 2*. Electronic Arts chose not to disable loot boxes in games like *FIFA 18* and wound up in litigation in The Netherlands, which is still ongoing³⁶.

³² Loot boxes were removed from *Star Wars Battlefront II* while the study was being performed, so there was no specific finding made on that title.

³³ “2K tweaks loot boxes in NBA 2K to comply with new Belgian gambling laws,” (http://www.gamasutra.com/view/news/325085/2K_tweaks_loot_boxes_in_NBA_2K_to_comply_with_new_Belgian_gambling_laws.php), Gamasutra (Aug. 22, 2018).

³⁴ “Study into loot boxes: A treasure or a burden?,” Dutch Gaming Authority, April 10, 2018 Report (https://web.archive.org/web/20180420073753/https://www.kansspelautoriteit.nl/publish/pages/4956/onderzoek_naar_loot_boxes_-_een_buit_of_een_last_-_eng.pdf).

³⁵ *Id.*

³⁶ “Dutch judge rules that EA should be fined €500k every week until it removes FIFA loot boxes,” (<https://www.videogameschronicle.com/news/dutch-judge-rules-thatea-should-be-fined-e250k-every-week-until-it-removes-fifa-loot-boxes/>), Video Games Chronicle (Oct. 29, 2020).

The rest of Europe has taken a somewhat different and varied approach to loot boxes. The United Kingdom has been considering the gambling aspects of loot boxes since 2017. In July 2020, the House of Lords Gambling Committee issued a Report recommending that video games be classified as “games of chance,” and regulated under the UK Gambling Act 2005³⁷. Referring specifically to loot boxes within video games, the Lords stated: “If a product looks like gambling and feels like gambling, it should be regulated as gambling.” The Lords suggested that regulations should be issued, but to date there no UK laws or regulations covering loot boxes.

France, Germany, Sweden and Poland have all examined loot boxes and their potential negative impact on minors. France’s online gambling authority (ARJEL) issued a Report in June 2018, suggesting that further investigation was necessary. Germany has examined loot boxes on several occasions, and lawmakers there recently suggested amendments to the Youth Protection Act (in March 2021) requiring games with loot boxes to be specifically marked as “cost traps³⁸.” Sweden’s Minister for Public Administration instructed the Swedish Consumer Agency in May 2019 to review consumer protection around loot boxes, particularly with regard to how such laws protect minors and children³⁹. Going in a slightly different direction, the Polish Ministry of Finance issued a statement in February 2019 stating that loot boxes are not gambling under Polish Law⁴⁰.

³⁷ See “Select Committee on the Social and Economic Impact of the Gambling Industry Gambling Harm—Time for Action,” July 2, 2020 (<https://publications.parliament.uk/pa/ld5801/ldselect/ldgamb/79/7902.htm>).

³⁸ “Germany wants to add loot box warning to video game” (<https://www.eurogamer.net/articles/2021-03-09-germany-wants-to-make-video-games-with-loot-boxes-18>), Eurogamer (March 9, 2021).

³⁹ “Sweden investigating loot boxes” (<https://www.gamesindustry.biz/articles/2019-05-14-sweden-investigating-loot-boxes>), GamesIndustry.biz (May 14, 2019).

⁴⁰ “Loot Box to nie hazard - mówi Ministerstwo Finansów – Interplay” (<http://interplay.pl/artykuly/loot-box-to-nie-hazard-mowi-ministerstwo-finansow>), interplay.pl (Feb. 26, 2019).

The European Union (EU) has also been taking a hard look at loot boxes. In July 2020, the European Parliament Committee on the Internal Market and Consumer Protection (IMCP), prepared a Report entitled “Lootboxes in online games and their effect on consumers, in particular young consumers⁴¹.” The Report suggested measures to lessen the impact of the “addictive loop” of loot boxes, such as odds and risks disclosures, parental controls and consumer testing with governmental oversight⁴². Despite these observation, the EU has not enacted any laws to specifically address loot boxes.

F. United States

The most recent development surrounding loot boxes in the United States was Republican Senator Josh Hawley’s introduction of “The Protecting Children from Abusive Games Act” in May 2019 (the “Games Act”). The Games Act was subsequently referred to the Senate Committee on Commerce, Science, and Transportation, but later expired at the end of the 116th United States Congress on January 3, 2021. While the Games Act is no longer before the United States Congress, it seems possible that another similar bill may be introduced again soon. That said, a Democrat President in The White House (Joe Biden) and a Democratic majority in the House of Representatives may bode against such legislation, at least until 2023.

The Games Act was interesting in its construction. It sought to ban both loot boxes and ‘pay-to-win’ schemes in games played by minors. The language of the bill

⁴¹ Cerulli-Harms, Annette; Münsch, Marlene; Thorun, Christian; Michaelsen, Firthjof; Hausemer, Pierre (July 2020), “Loot boxes in online games and their effect on consumers, in particular young consumers ([https://www.europarl.europa.eu/RegData/etudes/STUD/2020/652727/IPOL_STU\(2020\)652727_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2020/652727/IPOL_STU(2020)652727_EN.pdf)).

⁴² *Id.*

was incredibly broad, and targeted all games where “the publisher has constructive knowledge that any of its users are under the age of 18.” Such wording would literally have ensnared every video game currently on the market, and would have operated to effectively ban loot boxes for everyone (not just minor children). Perhaps thankfully, the Games Act did not make it very far, but it does create a blueprint for potential future legislation.

Prior to the introduction of the Games Act, some U.S. States had tried to implement their own measures to deal with loot boxes. Hawaii was the first to introduce loot box legislation, doing so through two separate bills in February 2018 – one requiring clear labeling, and the other banning sales to persons under 21 years. Both of these bills expired before enactment⁴³. Also in 2018, the State of Washington introduced a bill that would have ordered the Washington State Gambling Commission to investigate loot boxes, and the State of Minnesota introduced a bill to require labeling, and prohibit sales of games with loot box systems to children under 18 years of age⁴⁴. Again, neither of these bills went anywhere. Since the Games Act, no other U.S. State legislature has attempted to introduce loot box laws or regulations.

V. Loot Box Litigation

The concerns over loot boxes have not been confined to governmental legislative bodies – there has been litigation in the courts as well. Below we examine in more details some recent class action lawsuits from the United States concerning loot boxes.

⁴³ “‘Loot box’ bills fail to advance” (<http://www.hawaiitribune-herald.com/2018/03/24/hawaii-news/loot-box-bills-fail-to-advance/>), Hawaii Tribune-Herald (March 24, 2018).

⁴⁴ “Washington State Senators Introduce Bill to Investigate Loot Boxes” (<https://esportsobserver.com/washington-state-senators-introduce-bill-investigate-loot-boxes/>), The Esports Observer (January 19, 2018); “A Video Game ‘Loot Box’ Offers Coveted Rewards, but Is It Gambling?” (<https://www.nytimes.com/2018/04/24/business/loot-boxes-video-games.html>), The New York Times (April 24, 2018).

Zajonc v. Electronic Arts Inc.

U.S. District Court for the Northern District of California (2020)

Case No.: 3:20-cv-07871

Filed: November 9, 2020

One case that had the potential to be very interesting was a class action suit brought by three (3) gamers against Electronic Arts (“EA”) over loot boxes and a patented technology called ‘Dynamic Difficulty Adjustment.’ The suit was brought in San Francisco in November 2020, and wound up settling about six (6) months later. The allegations in the suit were that EA used a game element called ‘Dynamic Difficulty Adjustment’ in *Madden*, *FIFA* and *NHL* game franchises to push players into purchasing more loot boxes in the form of player packs. The background is that EA had received a patent in 2018 entitled “Dynamic Difficulty Adjustment,” where it has described a methodology for increasing the difficulty of a game as the player’s skill at the game improves⁴⁵. The plaintiffs initially believed that EA was using this patented technology in sports games to incentivize players to buy more (and more expensive) loot boxes. As we discussed above with regard to the *NBA 2K* franchise, the purchasing of loot boxes in the form of player packs can significantly improve your team, and thus your chances of winning both online and against the computer. *Madden*, *FIFA* and *NHL* all include similar modes to *NBA 2K* ‘My Team’; those modes are called ‘Madden Ultimate Team,’ ‘FIFA Ultimate Team,’ and ‘Hockey Ultimate Team,’ respectively. The suit alleged that “EA’s undisclosed use of Difficulty Adjusting Mechanisms deprives gamers who purchase Player Packs of the benefit of their bargains because EA’s Difficulty Adjusting Mechanisms, rather than only the stated ranking of the gamers’ Ultimate Team players

⁴⁵ See U.S. Pat. No. 9,919,217, issued March 20, 2018.

and the gamers' relative skill, dictates, or at least highly influences the outcome of the match."⁴⁶ The plaintiffs alleged that EA's actions violated the California Consumers Legal Remedies Act, False Advertising Law, and Unfair Competition Law⁴⁷. In an effort to be transparent, EA invited the plaintiffs to speak with their game developers, who assured them that 'Dynamic Difficulty Adjustment' was not being used in *Madden*, *FIFA* or *NHL*. Thereafter, the plaintiffs dropped their suit⁴⁸. EA still maintains a page on its website entitled "Fair Play & Dynamic Difficulty Adjustment" which is dedicated to informing players about this issue⁴⁹. That page states: "We've publicly said before that we do not use any scripting or "Dynamic Difficulty Adjustment" (DDA) or anything similar that would automatically adjust the difficulty of gameplay in FIFA, Madden and NHL Ultimate Team matches."⁵⁰ This lawsuit raises some interesting questions – what if a game publisher chose to incrementally increase difficulty to encourage the purchase of more loot boxes?, and if they did, how would this impact upon the addiction concerns we discussed above?

Coffee v. Google LLC

U.S. District Court for the Northern District of California (2020)

Case No.: 20-CV-03901

Filed: June 12, 2020

⁴⁶ "EA faces yet another class-action lawsuit connected to loot boxes,"

(<https://www.gamesindustry.biz/articles/2020-11-11-ea-faces-yet-another-class-action-lawsuit-over-alleged-use-of-dynamic-difficulty-adjustment>), gamesindustry.biz (Nov. 11, 2020).

⁴⁷ *Id.*

⁴⁸ "FIFA 'dynamic difficulty' lawsuit dropped after plaintiffs talk to EA's engineers,"

(<https://www.pcgamer.com/fifa-dynamic-difficulty-lawsuit-dropped-after-plaintiffs-talk-to-eas-engineers/>), PC Gamer (March 3, 2021).

⁴⁹ See <https://www.ea.com/en-gb/news/fair-play-and-dynamic-difficulty-adjustment>

⁵⁰ *Id.*

There have also been attacks on online marketplaces that facilitate the purchase of loot boxes. One involved a suit by a parent on behalf of their minor child against Google and the Google Play Store⁵¹. The Complaint (filed in June 2020) alleged that Google facilitated gambling and addictive behavior in minors by allowing game publishers to sell loot boxes for mobile games⁵². The plaintiffs said that they downloaded the games *Final Fantasy Brave Exvius* and *Dragon Ball Z* from the Google Play Store, bought virtual currency, and used the virtual currency to acquire loot boxes⁵³. The Complaint alleged violation of California’s Unfair Competition Law (Cal. Bus. & Prof. Code §§ 17200, *et seq.*) and the Consumers Legal Remedies Act (Cal. Civ. Code §§ 1750, *et seq.*). Google eventually prevailed through the dual-pronged argument that loot boxes are not unlawful under California Law, and even if they were the Communications Decency Act shields Google’s actions (as an online service provider)⁵⁴. Judge Beth L. Freeman dismissed the case against Google in January 2022 in response to a Motion to Dismiss, after about 18 months of litigation⁵⁵. Prior to the dismissal, other U.S. Federal Courts in California and Washington had dismissed similar suits against Apple Inc. (over the Apple AppStore) and Valve Corporation (over the Steam online gaming platform)⁵⁶. The lesson of these cases is that private suits against platform providers over loot boxes will not succeed; claims must be brought against the game publishers themselves.

⁵¹ “Google Video Game Loot Box Suit Dismissal Adds to Defense Wins,” <https://news.bloomberglaw.com/litigation/google-video-game-loot-box-suit-dismissal-adds-to-defense-wins>), Bloomberg Law (Jan. 11, 2022).

⁵² *Id.*

⁵³ *Id.*

⁵⁴ *Id.*

⁵⁵ *Id.*

⁵⁶ *Id.*

Zanca, et al. v. Epic Games, Inc.

Superior Court of Wake County, North Carolina (2021)

Case No.: 21-CVS-534

Filed: January 12, 2021

Another class action lawsuit over loot boxes was filed against Epic Games over the games *Fortnite* and *Rocket League* in January 2021. The suit alleged that Epic Games violated North Carolina’s Unfair and Deceptive Trade Practices laws in encouraging minors to purchase loot boxes within the games⁵⁷. Specifically, the suit targeted the Player Versus Environment (PvE) mode of *Fortnite* called “Save The World,” and the purchase of “Loot Llamas” using “V-Bucks.” The Complaint alleged that the following:

22. Critically, V-Bucks purchases are non-refundable, regardless of whether the purchaser is a minor, the minor's parent or guardian or another adult, or an individual who has for any reason changed their mind about their purchase.

23. While Players can earn V-Bucks in-game instead of purchasing them for money, earning V-Bucks in the game is a difficult, time consuming, and an inconsistent process due to the amount of playtime required and the randomness at which V-Bucks are offered as rewards. By making V-Bucks inordinately difficult and time consuming to earn, Defendant creates a ‘paywall’ to induce players to purchase V-Bucks instead of earning them.

...

25. Although Epic could have very easily based in-game transactions on actual currency, requiring the conversion of money to V-Bucks permitted Defendant to particularly maximize its revenue in several ways. First, the V-Bucks system distances the player psychologically from the amount of real-world money he or she has spent within the game. The V-Bucks system serves to psychologically distance

⁵⁷ See <https://www.epiclootboxsettlement.com/Content/Documents/Complaint.pdf>.

players from the financial implications of their in-game purchases by disconnecting the expenditure of real money from the products the players end up purchasing with their digital V-Bucks. This is especially the case for minors who may not have a firm understanding of the correlation between the amount of real-world money and V-Bucks spent. If Fortnite followed a traditional pay-for-game model, most players would think that spending hundreds of dollars, let alone thousands of dollars, is an exorbitant price to pay to play a single video game.⁵⁸

Note specifically the admission that V-Bucks could be earned through gameplay, but that the process of ‘grinding’ for V-Bucks made it much more likely that players would choose to spend real money. While the above are simply allegations that were never proved, Epic Games found them compelling enough to settle the case fairly quickly. About a month after the suit was filed, Epic Games agreed to establish a settlement fund of about \$78 Million, and pay any players who had purchase a “Loot Llama” during the relevant time period approximately 1,000 V-Bucks (about \$8.00)⁵⁹. *Rocket League* players received similar benefits (1,000 in-game “Credits”). Epic Games estimated at the time that roughly 6.5 million *Fortnite* players and 2.9 million *Rocket League* players would receive the automatic virtual currency payments⁶⁰. As part of the settlement, Epic Games also agreed to establish a fund to pay players who specifically filed claims for “consumer fraud” or breach of contract.”⁶¹ In a statement regarding the settlement, Epic Games said:

⁵⁸ *Id.*

⁵⁹ “Epic will pay off class-action loot-box settlement with in-game currency,” (<https://arstechnica.com/gaming/2021/02/epic-will-pay-off-class-action-loot-box-settlement-with-in-game-currency/#:~:text=Epic%20estimates%20roughly%206.5%20million.as%20part%20of%20the%20settlement>), Ars Technica (Feb. 22, 2021).

⁶⁰ *Id.*

⁶¹ *Id.*

We believe players should know upfront what they are paying for when they make in-game purchases... This is why today we only offer X-Ray Llamas that show you the contents before you purchase them in 'Save the World'.⁶²

While this case may have resolved many issues surrounding the sale of 'cosmetic' loot boxes in games like *Fortnite* and *Rocket League*, there are many other games out there with loot boxes for sale to minors, and it may only be a matter of time before we see more such litigation.

L.A. (a minor child) v. Take-Two Interactive Software, Inc.

Circuit Court of the Seventeenth Judicial Circuit, Winnebago County, Illinois
Removed to the United States District Court for the Northern District of Illinois
Case No.: 22-cv-50071

Filed: January 28, 2022 (State) / February 22, 2022 (Federal)

The latest class action lawsuit over loot boxes was filed against Take-Two Interactive Software, Inc. ("Take-Two"), the publishers of *NBA 2K*. The Complaint in this case shares many parallels with the Complaint in the *Zanca* case against Epic Games. Like that case, the focus of the allegations is microtransactions, such as in the allegations reproduced below:

16. The fixed price model, where customers purchase *NBA 2K* to access its content, is deceptive where customers believe they will have a comprehensive playing experience after their transaction, only to find out the game is littered with microtransactions which are necessary for players, including minors, to advance and compete within the game.

17. Importantly, Take-Two accumulated \$1.39 billion in microtransactions during the fiscal year 2020, accounting for 45% of its net revenues.

18. Defendant derives a significant portion of its revenue through the sale of virtual currency ("VC") and other

⁶² *Id.*

microtransactions. VC is an in-game currency created by Defendant solely for the NBA 2K universe, and is used by players to purchase MyPlayer attribute upgrades, MyPlayer aesthetics, and many other items including “lootboxes” in the form of MyTeam card packs.

...

20. While players can earn VC in-game instead of purchasing it for money, earning VC in the game is difficult, time consuming, and an inconsistent process due to the amount of playtime required and the randomness at which VC is offered as a reward. By making VC inordinately difficult and time consuming to earn, Defendant creates a “paywall” to induce players to purchase VC instead of earning it through play.

Those following closely will note that the ‘paywall’ allegation in Paragraph 20 of the Complaint in *Take-Two* is virtually identical to the allegation in Paragraph 23 of the Complaint in *Zanca*. The Complaint in *Take-Two* goes on to allege that the general structure of the MyPlayer and MyTeam modes within the game have a “pay-to-win structure.” We talked about the virtual card collecting mode called MyTeam previously; MyPlayer is a related mode where players can build a basketball player avatar that exists within a virtual world with other player’s avatars (called “The Neighborhood” in *NBA 2K18* and subsequent versions), and spend VC to improve the avatar’s attributes. The Complaint also specifically targets the “Ante Up” game within the MyPlayer ecosystem, where players can meet up within The Neighborhood and ‘bet’ VC on the outcome of a virtual game. The Complaint alleges that “Ante Up” was “created to capitalize on and encourage addictive behaviors, akin to gambling.” In addressing the specific Plaintiff (a minor child not identified by name, but only as “L.A.”), there are allegations that she “was an avid player of Defendant’s NBA 2K game series” and spent

“real money on Defendant’s VC, lootboxes, MyPlayer upgrades, and other in-game purchases [but] almost never received any valuable items or player cards.”

The *Take-Two* is extremely interesting because it is one of the first cases to take on ‘performance-based’ loot boxes (as opposed to solely ‘cosmetic’ ones). As discussed at length above, the virtual card packs purchased with VC in the MyTeam mode of *NBA 2K* can definitely improve the quality of your virtual basketball team. The same can be said for VC used to increase the attributes of a MyPlayer avatar in *The Neighborhood*. But are these modes truly ‘pay to win’? And even if they are not, should they nonetheless be regulated due to the elements therein that resemble gambling? Some would argue that no matter how good your virtual team is in MyTeam, you still have to have a high level of skill at the game to beat the best players (or to beat most online players for that matter). Regulators will often draw lines between games of skill and games of chance when it comes to classifying what constitutes gambling. Will this case end with a lump sum settlement fund and game alterations like *Zanca*? Or will the plaintiff choose to take this case to a court ruling? The ball is, quite literally, in their court.

VI. The Future Of Regulation

So where does all of this litigation and proposed regulation leave us today?

Belgium and The Netherlands have set an example for strict enforcement under gambling laws. Japan has been keeping a watchful eye on loot boxes under consumer protection laws. The United States and the rest of Europe are simply in investigatory mode at the moment. Were other nations to adopt similar approaches to Belgium and The Netherlands, we might see the majority of the gaming world follow suit in a domino effect. The fact that has not happened in the last three (3) years speaks to the true debate going on between economics and consumer protection.

Game publishers are well aware of the risks that loot boxes pose in terms of regulatory fines and litigation costs. However, loot boxes have become too ingrained in gaming culture to simply eliminate them. Even if this were possible, the revenue stream that loot boxes provide game publishers would need to be replaced. Since video game prices have only increased by about ten to fifteen percent (10-15%) in the last 30 years, we could be looking at unprecedented price hikes if loot boxes are removed from the revenue equation. While governments around the world continue to struggle with how to regulate the sale of loot boxes, the video game industry would do well to consider some self-regulation. As we all saw with the demise of the CD and the rise of the digital download in the music industry, old habits can be hard to change, and failure to change with the times can be potentially disastrous⁶³. Technology is always advancing, and

⁶³ As detailed in Steve Knopper's fantastic book "*Appetite for Self-Destruction: The Spectacular Crash of the Record Industry in the Digital Age*," the music industry was forced to brink of extinction as file-sharing services like Napster rose to power, and it took an uneasy alliance between the industry and Apple (creating the iTunes Store) to save the music business.

game publishers need to get a handle on loot boxes before a 'solution' is forced upon them.