To Free or Not to Free:
Nintendo's quest to maintain a unique brand identity in the homogeneity of the Mobile Games Market

by

Maren Wilson

A thesis submitted in partial fulfillment of the requirements for the degree of

Master of Arts

Department of Digital Humanities

University of Alberta

Abstract

As recently as 2013, Nintendo made bold assertions that they would never enter into the mobile games market (Byford, 2013). However in 2016 the market saw three games using IP commonly associated with Nintendo launch on both iOS and Android: Miitomo, Pokemon Go, and Super Mario Run. Nintendo has a long and storied history of tightly coupling hardware and software development in house, meaning that Nintendo develops both games and the consoles upon which they are played. This has led to the common rule of thumb in regards to their game, that should a player want to play a Nintendo game, they must first purchase a Nintendo console (Gilbert, 2018). Since Nintendo does not have a smartphone line, adhering to this long-held principle of coupling hardware and software would mean forgoing the chance to develop games for iOS and Android phones. And yet, in 2016, they did just that.

This was a major reversal give how outspoken Nintendo had been up until recently. What could have possibly sparked such a change? Market potential. Market potential refers to the size of the market Nintendo gets to access with their games. Nintendo has never sold more individual titles of games for a console than the number of units sold for the console itself. For example, Tetris is the best selling game on the Nintendo Gameboy, due in part because it was bundled with the Gameboy, but it sold only 30 million units, to the Gameboy's 118 million units (Nintendo, 2016). Nintendo's player base is restricted by the number of people willing to purchase their game consoles. From 1985-2017 Nintendo sold about 735 million game consoles globally (Statista, 2017). This significantly outpaces Sony — Nintendo's closest competitor in console sales —- who have sold roughly 532 million consoles. Nintendo has easily earned their place as a household name in the video game market. However in 2017 alone, 1.5 billion smartphones were sold worldwide, and so the potential user base on smartphones in 2017 alone is almost double what Nintendo's lifetime of game console user base is. Coupled with the fact that in 2018 the mobile games market made up 51% of the total revenue in the games industry (Wijman, 2018), it makes economic sense why Nintendo would move towards mobile games with their world renowned IP.

However, console games and mobile games traditionally have used very different market strategies. The massive revenue mobile games rake in tend to be at the expense of the user. Most mobile games are free and make money through incentivizing players to spend small amounts to get through gated content. The World Health Organization in 2013 recognized microtransactions and player incentives in freemium and gacha mobile games as affecting the brain similarly to the way gambling does to addicts (WHO, 2019). Nintendo is a family friendly game company, whose identity has always centered family play and child friendly games. And so Nintendo's move into the mobile games space is not so simple. They must find a way to be economically successful in a market renowned for its predatory and anti consumer practices while staying true to their family friendly values.

We will explore Nintendo and it’s identity, the mobile games market and its economic practices and models, and then apply our understanding to the various successes and failures Nintendo has had in the mobile games industry from 2016-2018. In doing so we will paint a better picture for Nintendo’s behaviour in the mobile games market going forward, and seek out an understanding for how mobile games will change the face of modern gaming as we know it.

Acknowledgements

I would like to thank my supervisor Geoffrey Rockwell. Without your patience and guidance I would not have ever managed to finish this huge undertaking. Thank you for your support when my imposter syndrome had me convinced that my only option was to quit grad school. Your knowledge and enthusiasm have been an inspiration for me and I look forward to future collaborations with you as I move on from the University.

A huge thank you to my colleagues at Amii who have offered indispensable help and support and have been commiserators on the subject of writing a thesis. Talat Syed, Shazan Jabbar, Luke Kumar, Sankalp Prabhakar, Brittany Ayotte, Zvonimir Rac, Warren Johnston, Saba Taremi, Alex Kearney, Johannes Gunther, Tara Petrie, and of course Cathy King, you have all been an immense support and I would not have been able to juggle writing a thesis and a full time job without you.

A big thank you to my friends and colleagues in HuCo/DH who have been an inspiration with their clever ideas, their sound arguments, and their hard work. Thank you Robert Budac, Grady Zielke, Zachary Palmer, Kara Au, Jocelyn Beyer, Anna Borynec, Allie Querengesser, Rachel Osolen, and Jane Kuznetsova for your big ideas and laughing at my jokes. Biggest thank yous for Kaitlyn Ensely and Andrea Budac who actually kept me honest and made sure I was putting regular time into writing, and for sharing ideas and reassuring me that we all feel like imposters sometimes.

Much love and thanks to my found family Anna Koop, Joel Koop, Leah Hackman, Michael Bowling, Shayna Bowling, and the boys. You've all been so kind and understanding with me, as I've spent years deflecting from and complaining about my thesis over board games. Your care and support has meant the world to me and I know I would have abandoned grad school years ago if it weren't for all of you brilliant, compassionate, and curious humans. I love you all.

And to the person who I wouldn't have been able to get this done without, Mike Johanson, your love, support, good humour, and patience have been a saving grace for me. This milestone would not have been possible without you and your reassurances that I am both smart and capable of writing "good". Also for reassuring me that grad school “sucks” but I may as well finish anyways. Thank you from the bottom of my heart, you mean the world to me.

Also thank you to Halloumi the corgi for being the best dog who has ever existed.

Tables of Contents

List of Figures

Introduction

Why, after nearly 40 years of exclusively and successfully developing games for their own consoles, did Nintendo decide to diversify their product line by developing mobile games for smartphones?

“We make platforms designed to demonstrate the high value of high-quality video game software. But, there is a second, entirely different way to consider the value of software. The objective of smartphones and social networks, and the reason they were created, are not at all like ours. These platforms have no motivation to maintain the high value of video game software — for them, content is something created by someone else. Their goal is just to gather as much software as possible, because quantity is what makes the money flow — the value of video game software does not matter to them." Satoru Iwata, Nintendo President, GDC 2011

To answer such a puzzling question, we start by looking at the history of mobile devices, and Nintendo.To anyone engaged in modern western culture, where mobile devices have become ubiquitous, the question of a tech company like Nintendo entering into the Mobile Games industry would appear to be obvious. The potential size of audience, with users around the globe having smartphones capable of downloading games, is massive. The cost of development is much lower for mobile than a standard console game. Due to these factors, the potential return on investment for mobile games is astronomically large. With such strong enticements to enter the mobile games market, why would Nintendo have been so hesitant to do so in 2011?

In 2007, Steve Jobs announced a literal game changer in how we communicate, interact, document, and play, with the announcement of the first iPhone. The launch of the iOS AppStore in 2008 began one of the most profitable revolutions in gaming history. Figure 1 presents the sales of iPhone and Android devices over the ten years between 2007 and 2019, which shows how accessibility and price has allowed the Mobile Gaming market to become the most profitable in the games industry. Smartphones have become a huge part of our lives, such that since 2016 about 1.5 billion smartphones are sold each year. The size of the potential mobile games market is massive compared to the rest of the games industry.

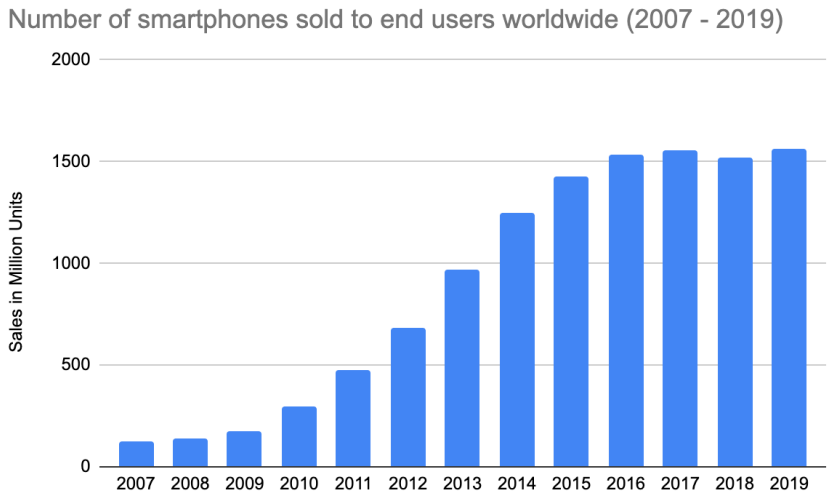


Figure 1.

(https://www.statista.com/statistics/263437/global-smartphone-sales-to-end-users-since-2007/)

Compare this large population of smartphone users with the user base of one of the most successful video game companies of all time: Nintendo. They have decades of experience selling their consoles to market and have borne witness to a range of successes and failures. From the massively popular Wii to the stuttering failure of the Gamecube, Nintendo has seen their user base shrink and grow inconsistently over the years illustrated in Figure 2. In spite of the high variance of their individual consoles successes, Nintendo has been a major leader in console markets, with strong market presence, for nearly 40 years. Throughout this time, Nintendo's operational model has been one of exclusivity: Nintendo exclusively develops games for their own consoles. The success of Nintendo has been directly dependent on the success of their consoles.

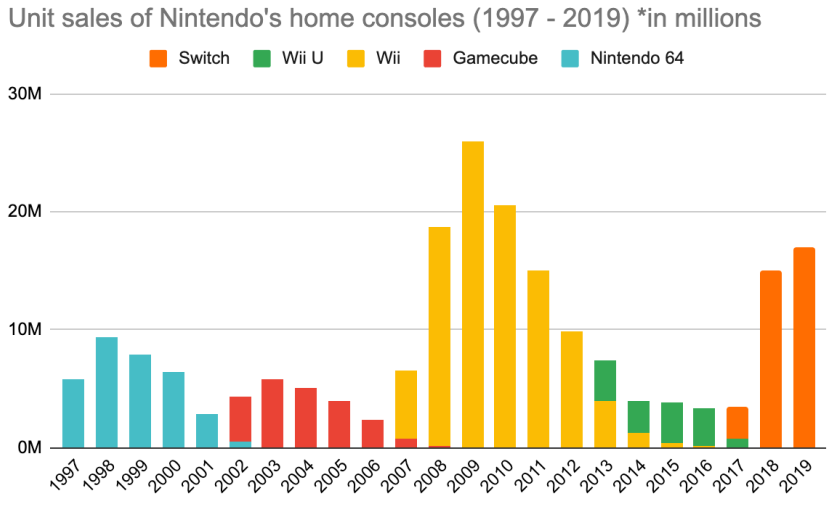


Figure 2

(https://www.statista.com/statistics/227012/lifetime-unit-sales-of-nintendos-home-consoles/)

From sales shown in Figures 3 and 3a, we see that Nintendo has been an absolute force in the games industry. For how long has “playing the Nintendo” been the common language of the uninitiated to describe someone playing a digital game? Much in the way that Kleenex is the poster child for facial tissues, Nintendo has become synonymous with digital games. Looking at their financial successes since 2008 paints a pretty clear picture of the up and down swings that are so common in the games industry. Just look at how Nintendo’s sales peaked in 2009, with the massive ongoing success of the Nintendo Wii, and the tour de force that was the Nintendo DS, their best selling game console of all time. Nintendo has been known as a leader of the handheld gaming market, with their success with the Gameboy, and later Gameboy Advance. But it is the Nintendo DS that saw the greatest success globally.

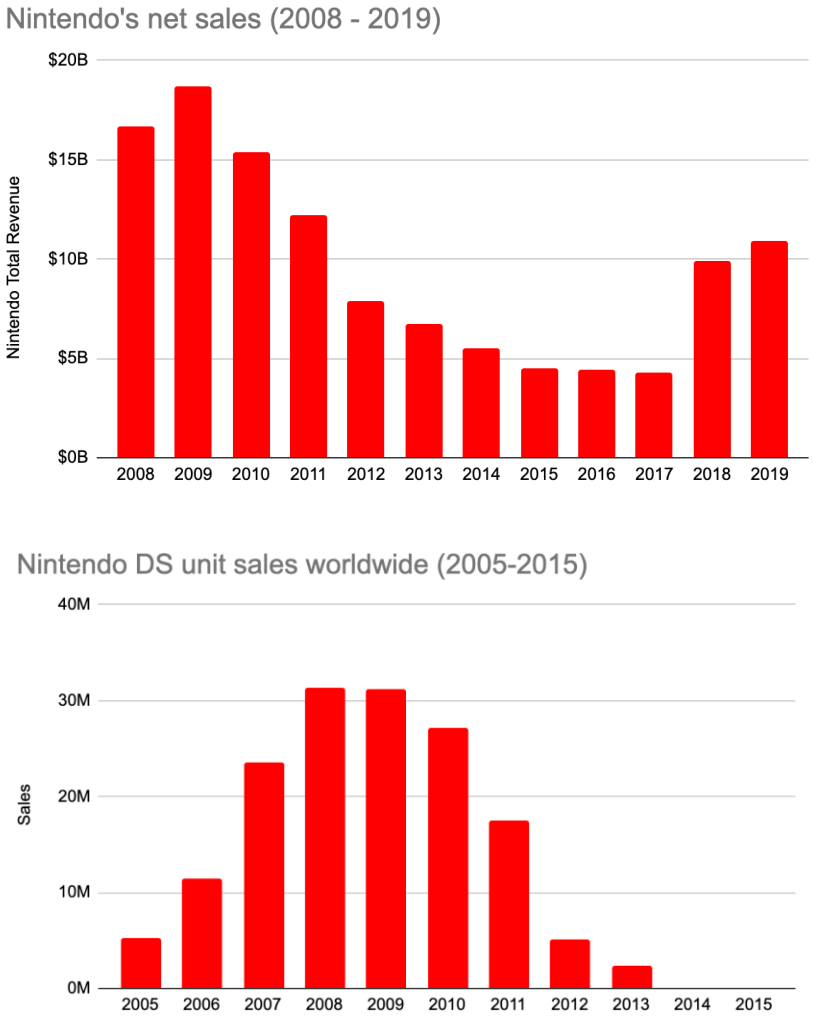


Figure 3 & 3a

(https://www.statista.com/statistics/216622/net-sales-of-nintendo-since-2008/)

(https://www.statista.com/statistics/271775/worldwide-sales-of-the-nintendo-ds-since-2004/)

Figure 3.5 shows that the Nintendo DS saw massive success globally, selling upwards of 30 million units in peak years. Comparing this to sales shown in Figure 2, we can see that the Nintendo DS was more popular than Nintendo's best selling home console, the Wii. Thus Nintendo's best selling console is in fact a handheld gaming device which is portable in nature. Over ten years, the Nintendo DS sold approximately 155 million units, which means any game for the Nintendo DS has a rough upper limit of 155 million sales. While these numbers are impressive, they pale in comparison to what the mobile games industry is capable of.

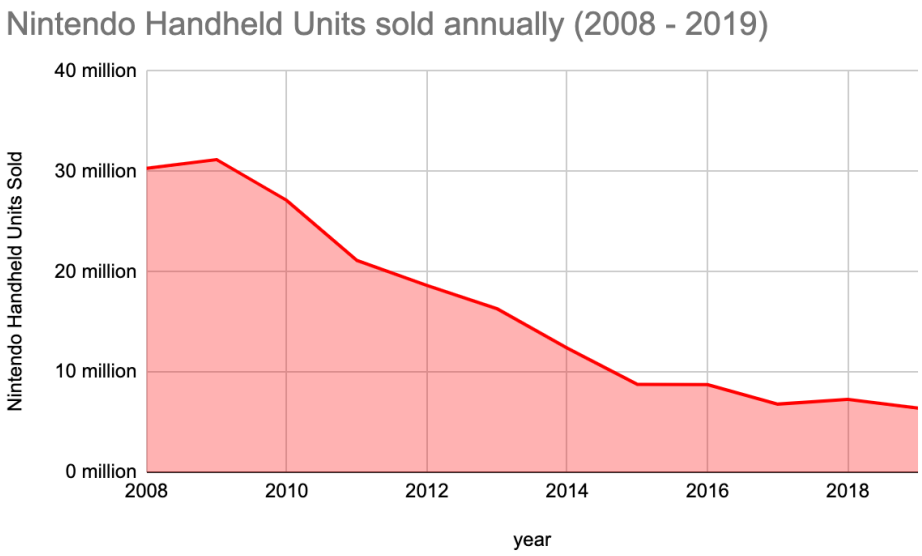


Figure 4

(https://www.statista.com/statistics/271775/worldwide-sales-of-the-nintendo-ds-since-2004/)

Nintendo's massively successful handheld gaming units, the DS, and the 3DS's popularity has gradually diminished as time has gone on. This decline is partly attributable to the success of the Nintendo Switch as it launched in 2017, which is a hybrid console that can plug into a TV, and likewise is available for portable play. But for the sake of argument we will focus on the corner of the market that Nintendo has dominated for as long as they've operated in mobile games, the handheld market. Their sales cap off at 32 million units sold in 2009 (see Figure 4), an all time high for the company.

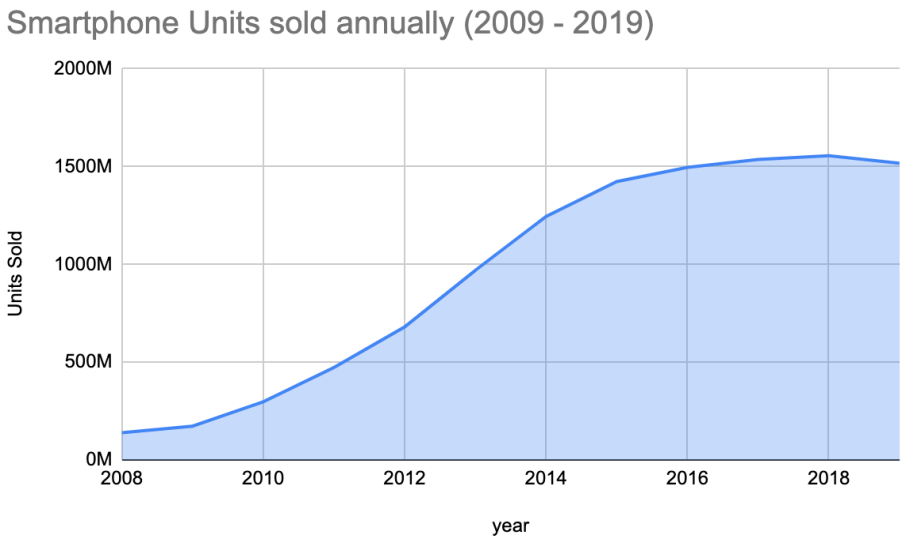


Figure 5

(https://www.statista.com/statistics/263437/global-smartphone-sales-to-end-users-since-2007/)

Until you look at the amount of smartphones sold (see Figure 5), all of which are capable of playing games on them. Notice the contrast in slopes between these graphs. While Nintendo has been slowing their production and promotion of their handheld game consoles, the purchasing of smartphones has been going up almost every year since they market started in 2007. In addition to the slope, note the difference in scale. Smartphones are now averaging near 10x the sales they did a decade ago, how is Nintendo meant to compete in terms of audience size? As smartphone units sold are now 50 times higher than Nintendo's best year for handheld sales, it is clear that Nintendo cannot compete in terms of audience size.

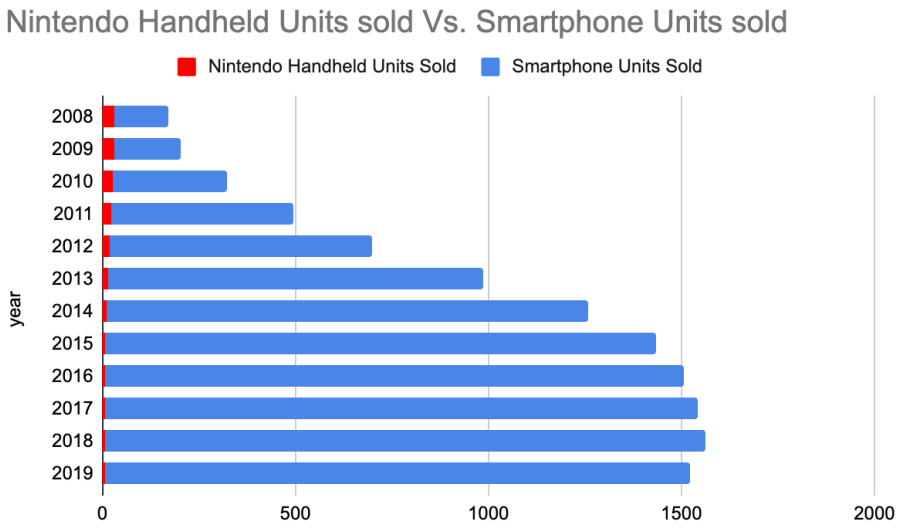


Figure 6 (Figure 4 & Figure 5 comparison)

Nintendo's president in 2011 said "[Smartphones] have no motivation to maintain the high value of video game software — the value of video game software does not matter to them." (Nikkei, 2011) and looking at where the mobile games industry was back in 2011, it's not hard to see why. At that time he mobile games industry's market share was growing, but Nintendo had their successes and the years to follow looked good. They had a new console coming out soon, the slightly more powerful Wii U. The recently launched 3DS was picking up speed in the market, and Nintendo games were as popular as ever. Nintendo's very brand had been tied for so long to the quality of the games they made, why would they ever branch out to make mobile games -- traditionally inexpensive and lower-quality -- that seemed to be in direct opposition to the very games they were known for?

And yet, in 2016 things changed. Nintendo started releasing games for mobile, using their most popular IP to varying degrees of success. After nearly 40 years of isolationist game development, keeping console development and game development exclusively in house, Nintendo decided to branch out and start developing games for iOS and Android out of fear of loss of market saturation with the Nintendo Switch, recognition of the changing times, and the popularity and growth in mobile games. Now that we understand the scale factor to the differences in audience size it makes perfect sense why Nintendo would branch out and try their hand at making mobile games, using the popular IP they've been known for.

As a leader in the games industry, when Nintendo moves, other game makers pay attention. For example, after the success of the Wii, four years later both Sony and Microsoft came to market with their own motion controllers for their respective consoles (Kohler, 2010). By moving into the mobile games industry, such that mobile games are effectively replacing their handheld games, Nintendo is demonstrating that they are shifting their market focus. And in doing so, signaling to the rest of the industry that if major game companies want to stay competitive in the games industry, they will need to diversify their game offerings. We've already seen how the mobile games market has grown dramatically in the last decade, such that Mobile Games make up about 50% of global gaming revenue annually now. No more is it a question of Role Playing games versus First Person Shooters, or Single player versus Multiplayer games, or even Playstation versus Nintendo, it is now mobile games versus home console games. And smartphones are the great equalizer in terms of platforms. The graphical and memory differences between iPhone and Android are not nearly as dramatic as the graphical capabilities between the Xbox 360 and Wii, meaning that companies will no longer be selling some of their offerings based off the beautiful graphics.

The games industry shifting some focus towards mobile games is a sign of change in how consumers interact with games. From the economic accessibility perspective of more people being able to afford free

games than high priced console software, to refocusing on core gameplay mechanics as the selling point for games, rather than their graphical quality, the mobile games industry is a different beast altogether than the games market as we've understood it since the 1980s. Nintendo is effectively the largest player, and certainly most renowned, to move into a mobile games market strategy. Signalling to us a time of change in the way consumers interact with games.

Going forward we'll examine Nintendo's transition from mobile averse to entering the mobile market in three parts. First, we will establish an understanding of Nintendo's history and game design ethos, and answer the question: why, after nearly 40 years of exclusively and successfully developing games for their own consoles, did Nintendo decide to diversify their product line by developing mobile games for smartphones? Second, we will establish a deeper understanding of the mobile games market, differentiate it from the rest of the games industry, and explore why Nintendo found the mobile market an attractive area to expand into. Finally we will take a closer look at the market models that Nintendo has deployed with their mobile games, and gauge the success of these games.

Chapter 1: Nintendo Histories

Introduction

Since the advent of the mobile games market launching in 2007 (Leung & Liang, 2015), major games industry developers and publishers have moved to claim a share of the quickly-growing mobile games market (Wang, 2014). And despite being one of the most recognizable names in the industry, Nintendo notably was not one of them. With emphatic denials as recently as 2013 (Byford, 2013), Nintendo, and their then president, Satoru Iwata, said that they were well aware of financial gains possible within the mobile market. Iwata said in an interview with Nikkei (2011) *"the moment [Nintendo] started to release games on smartphones [Nintendo would] make profits."* Though not a fortune teller, Iwata and his contemporaries were aware of the strength and mass appeal of their intellectual property, having built a multi-billion dollar brand off of it. By 2011, Nintendo had made $12 billion dollars off the Mario franchise alone (Ryan, 2011). However in order to maintain their unique brand identity, and the prestige associated with it, Nintendo has historically had a stranglehold on how their IP is used (Inoue, 2010). By moving into the mobile game market and using a platform they had had no part in the creation of, they would be loosening some of the restrictions Nintendo has been notorious for.

If in nearly forty years Nintendo has focused on maintaining a tight grip on their IP via in-house creation of both consoles and games, why is it now that they decided to move into a market where they do not control the platform upon which their games will play? How do we know that Nintendo moving into the mobile market is aberrant, aside from the emphatic denial by Satoru Iwata in 2011 that Nintendo would never go mobile (Phillips, 2011)? To understand we must explore Nintendo's history to get a better sense of their culture, their design philosophies, and their business practices. We will take an indepth look at the impact Nintendo has had over time, and how they developed themselves into a games industry cornerstone. We will endeavor to understand their business practices and what their behaviour tells us about how they view consumers. Finally, we will start to examine what practices and culture exists in the mobile market, such as to have an impact on how Nintendo would typically behave.

Nintendo a History

Nintendo has been in the business of making games for a very long time. Founded in 1889, they dealt primarily in hanafuda card games before moving into toy markets in the 1960s (Georges, 2012). Moving into the digital game market in the 1970s, Nintendo first garnered the rights to distribute the Maganvox Odyssey in Japan in 1975, then moved on to making their own games like EVR Race (1975), Radar Scope (1975) and eventually, Donkey Kong which was released in 1981. This entrance into the digital

games market would go on to inform their corporate culture and vision for the company's future and would eventually lead to it being evaluated at $37 billion dollars in 2018 (Forbes, 2018).

With over 128 years of game making experience (Inoue, 2010), if there is anyone who understands what fun is, it must certainly be Nintendo. As a force within the games industry, Nintendo has paved the way with their innovative designs and a rigid maintenance of their core design principles (Stuart & MacDonald, 2018). Over the course of their history, Nintendo has made monumental contributions to the hardware side of game development with their consoles, as well as consistently delivering strong software. By the end of this section we will have a firm understanding of Nintendo, their design ethos, and what major contributions they have made to the video games industry. In doing so we will establish what a surprise it was for Nintendo to suddenly decide to move into the mobile game market in 2016.

In its 130 year history, Nintendo has had only six leaders (Georges, 2012). From 1977 to 2002, Hiroshi Yamauchi was responsible for leading Nintendo through the videogame market. Yamauchi was known in the years of NES and SNES for being able to predict the twists and turns of the video game market, even though he himself had only played a video game once in his life and hated it (Ryan, 2012). While he stepped down in 2002, he remained with the company as the Chairman of the Board and remained there until 2005. Yamauchi's final legacy would be with the Nintendo Wii. Following Yamauchi, Satoru Iwata lead the company until he passed in 2015. During the 13 years that Iwata ran the company, Nintendo saw both exciting successes and disappointing failures. In this period the Nintendo Gamecube, and later the Wii U were viewed as market failures, collectively only selling about 35 million units worldwide. At the same time, the Nintendo DS and Wii platforms on the other hand were hugely successful, both selling over 100 million units a piece. It was during this time Iwata put forth the use of the term 'Blue Ocean' (Jones & Thiruvathukal, 2012), meaning that the company would focus its attention on a more open approach to games, developing titles for people that were not traditionally thought of as gamers.

The Blue Ocean Strategy is a marketing theory coined by W. Chan Kim and Renée Mauborgne in 2004. The primary goal of the Blue Ocean is to develop analytical frameworks that will allow your business to access new, untapped markets. The book outlines a red ocean, those markets that a business currently accesses. In Nintendo's case, this would be it's current core player base, anyone who was already invested and interested in Nintendo consoles and games. A red ocean strategy focus on building advantages over the competition, usually by assessing what competitors do and striving to do it better. In the games industry this approach is characterized by console exclusive games, and the graphical arms race that Sony and Microsoft have been engaged in for years. The Blue Ocean, on the other hand, looks at market boundaries as fluid. There are no inherent market structures that prevent an actor from widening the demand for their product, they are merely untapped, because marketers don't know how to access them. The solution of which is rooted in value innovation. For Nintendo this meant rethinking not

only the interface of the Wii, but also the types of games offered. Everyone plays, and everyone enjoys fun; Nintendo just needed to figure out how to leverage that fact, and make their consoles more accessible to wider audiences. Many non game players find manipulating and controlling joysticks challenging, and so Nintendo created the Wii-mote controller, which allows users to literally point and click to control a game, similar to how we interface with television remotes. With the Wii, Nintendo tapped into a sense of familiarity for new users. The Wii's lower market price, coupled with the decision to package the console with the family friendly Wii Sports (2006), allowed Nintendo to broaden their market. Retirement homes, libraries, hospitals, schools, and many other public services, adopted using the Wii in programs that otherwise had never used digital games (Jones & Thiruvathukal, 2012).

Over the past three and a half decades, Nintendo has developed into one of the most influential and powerful game makers in the video game industry. They have focused on the specific design philosophies that have seen them again and again provide unique and thrilling game experiences that keep audiences buying their product (Nintendo, 2019). Through strict control of their IP via the development of their own game consoles, we have witnessed decades of high sales for Nintendo's product. Gilbert (2018) summarized Nintendo's business philosophy quite simply as "If you want to play a Nintendo game, you need to buy a Nintendo console". Building a reputation for quality games has allowed Nintendo to be successful in this business strategy. This complete and total control of their development and platform pipeline has proven extremely profitable for Nintendo, and has allowed them to become a force within the industry.

Where does a game designer begin when they want to make a new game? Some approach a new game idea by developing a story. Others might focus on an emotional experience, like fear, or a sense of accomplishment, to drive their designs. Nintendo's development process aims to create unique and new ways to play. Shigeru Miyamoto said "We get the fundamentals solid first, then do as much with that core concept as our time and ambition will allow" (Totilo, 2016). This refers to the act of iterating on a simple core mechanic. A core mechanic could be the simple act of jumping, as in Super Mario, or shooting, as in Star Fox. Nintendo picks a core mechanic and then iterates on how it is employed in their games: building a sense of mastery for players, and allowing for more interesting level design as the game progresses. In designing and iterating on a simple core mechanic, like Mario's Jump, Nintendo makes their games easier to learn, and more accessible to a wider audience.

At their core, Nintendo games usually focus on a primary action or mechanic that the player repeats and iterates on over the course of play (Brown, 2017). This is evident in their early titles like Donkey Kong, where Jumpman jumps to reach the top of raised platforms, increasing in speed and difficulty as the player progresses through levels. By focusing on this central mechanic, players earn a sense of mastery

over the game environment. In the case of Donkey Kong, it allows the player to become an expert at jumping and moving vertically across levels, as movement speed gradually increases over time.

An example: in Area 2 Level 1 of Super Mario Bros (see Figure 7), a player might have to time a jump in order to get across a hovering platform over a large gap. After they've managed this, they'll come across another larger gap with three hovering platforms, requiring the player to time their jumps precisely. The player will continuously encounter similar challenges that are progressively more difficult than the previous encounters as they traverse the level. Late game levels tend to blend several of the mechanics introduced in early levels of the game into a complex system. This model of the increasingly difficult trajectory is designed to facilitate a feeling of mastery over the core gameplay. If a player learned that they can make platforms out of throwing ice at enemies, and they've learned to time their jumps precisely to jump on platforms, they can synthesize these two skills in order to complete a more difficult level. The goal is ultimately for each level to emphasize teaching the player how to play the level so that they are never put in a position where they cannot progress meaningfully (Rogers, 2018). This creates a game that is easily accessible to all ages. By having the game teach the player how to apply mechanics to more sophisticated puzzles they are enabling a "Kishotenketsu" style game design (Nutt, 2012). This creates the core that is the Super Mario and Nintendo design ethos.

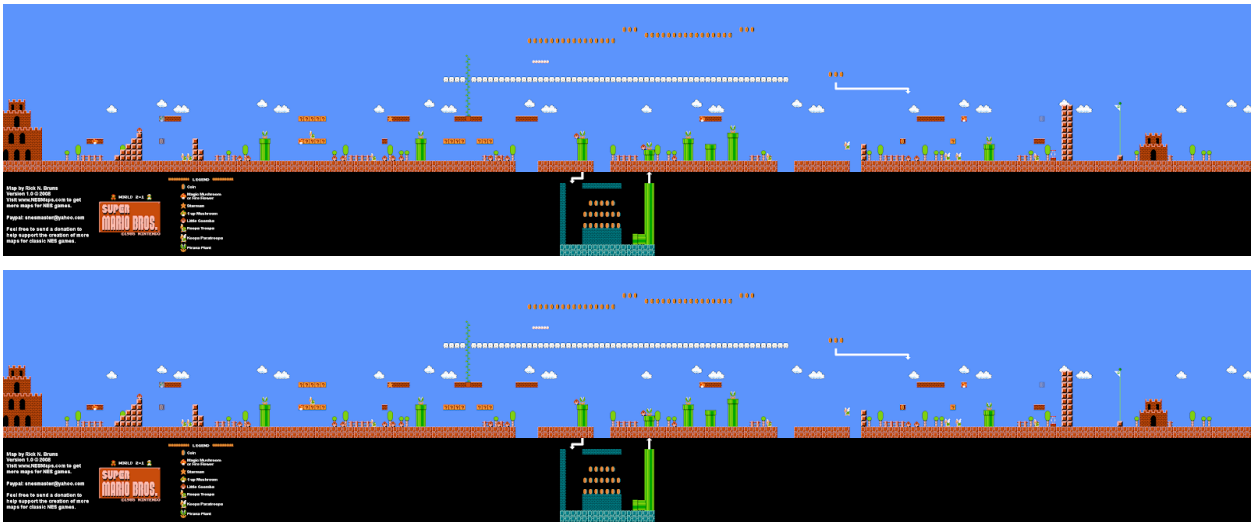


Figure 7

(http://www.mariouniverse.com/wp-content/img/maps/nes/smb/2-1.png)

This design philosophy has continued into Nintendo's major modern successes like The Legend of Zelda: Breath of the Wild (2017), where players control Link primarily through sword interactions that increase in complexity and challenge as the player progresses through the game. Or a classic title like Metroid (1986), where as Samus Aran players interact with the world via their gun in a myriad of creative ways. Samus can shoot, but can also grapple, swing, hook, and knock back enemies all with her overpowered

gun. By using Samus' gun as the primary interface the player uses to interact with the world, the player is able to exert mastery over pointing and shooting for different ways of maneuvering through a level.

Making games accessible has been one of Nintendo's core successes: making games that anyone can play. This accessibility has increased Nintendo's brand recognition as the "family friendly game company". How many times in the last two decades has "the Nintendo" been synonymous in non-gaming circles with the family video game console? This image has been bolstered over the years by Nintendo's steadfast commitment to curating family friendly play experiences. Kirby might eat enemies and Mario might crush turtles with his feet, but they poof away in cute animations, instead of into gory explosions of viscera. In the 90s with the increased popularity of gore and violence in games with the advent of Mortal Kombat (1992), and Doom (1993), Nintendo choosing to focus on family friendly and accessible gameplay is a revolutionary act.

Since 1980, Nintendo has been one of the leaders in the home game console market (Ryan, 2012). They realized quickly that in order to maintain their family friendly values, and to maintain complete control over the IP, the best way to do so would be to make their own hardware on which to run their family oriented software. Over the last 30 years they've experienced some of the greatest sales in both the handheld and home console markets, cementing their place as a leader within the games industry (Voskuil, 2014). Since starting development on their own game consoles, we've seen popular Nintendo consoles rise and fall (Dunn 2017), like the Nintendo Entertainment System (1983), the Nintendo Gameboy (1989), the Wii (2006), and most recently the Nintendo Switch (2017) which blurs the line between console and handheld platforms. Despite these successes, Nintendo has not been immune to market failures, like the Gamecube (2001) or the Wii U (2012). In future chapters, we will look at how these more modern failures, when paired with a recognition of an evolving market, can reveal how Nintendo has changed their market strategy from 2016 onwards.

Mobile vs Handheld

Starting with the Game & Watch in 1980 (Inoue, 2010), Nintendo has paved a path of success in the handheld gaming market for nearly four decades. As we've previously discussed, Nintendo has obstinately refused to enter into the mobile games market which began in 2007 (Gillbert, 2015) with the release and popularity of the iPhone and Android smartphones. Nintendo may have started exploring the idea of portable digital games in 1980 with the Game & Watch (1980), but it would be in 1989 with the release of the Gameboy that Nintendo saw massive international success with their handheld game consoles (Stuart, 2015).

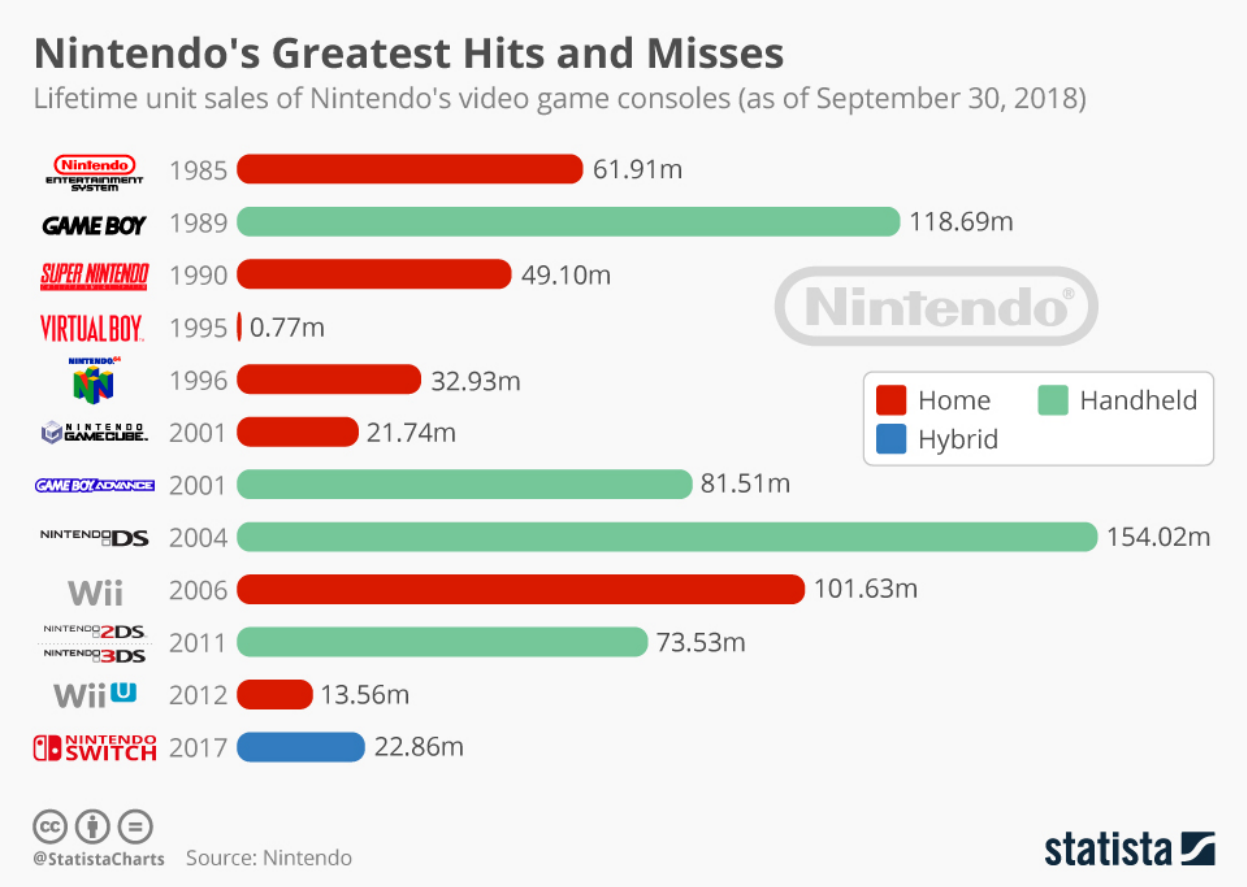


Figure 8

(https://www.statista.com/chart/6338/nintendo-game-console-sales/)

The Gameboy outsold its rivals and became a significant success, having sold over 118 million units worldwide (Ghahramani, 2015), dramatically outpacing it's rivals at the time, like Sega's Game Gear (1990), Atari's Lynx (1989), and NEC's TurboExpress (1990). The massive success of the Gameboy demonstrated to Nintendo that consumers wanted smaller, more portable experiences, influencing the path Nintendo would take in the development of their consoles for years to come. The Gameboy would be discontinued in the early 2000's to be replaced by the Gameboy Advance (2001). As of 2010, the Game Boy Advance series has sold 81.5 million units worldwide (Ryan, 2012). Despite the long market life of the Gameboy of 12 years, the Advance was replaced quite quickly with updated graphics and a touch screen on the Nintendo DS (2004). DS stands for the Dual Screens the machine utilized, one of them featuring touch sensors, allowing for innovative and unique mechanics not seen in many other games at the time. All Nintendo DS models combined have sold 154 million units (Volpe, 2015), making it the best selling handheld game console to date, and the second best selling video game console of all time behind Sony's PlayStation 2 (Stuart, 2015). The popular Nintendo DS would be replaced by a slightly faster and more feature rich machine in the Nintendo 3DS (2011), this time so named for the dual screens, one of

them featuring stereoscopic 3D, allowing players to experience a new depth to their play. As of September, 2018, the Nintendo 3DS family of systems combined have sold 73.53 million units.

With the DS and 3DS, Nintendo began thinking about design choices related to touch screens, often the core way players interact with mobile games on their own phones. Though often ancillary to the core gameplay, Nintendo has employed several interesting uses of the touchscreen interface in the Nintendo DS and Nintendo 3DS console families. From using it as a floating, ever present start menu that player's can access at any time in the recent Pokemon games (Pokemon: Sun & Moon, 2016), to using it as a map to orient players within the world as with the Bravely Default (2012). Nintendo has also explored using the touchscreen as a drawing interface (Scribblenauts, 2009), or as a dog petting simulator (Nintendogs, 2005). Nintendo has had experience thinking about and integrating touch interfaces into their games for years now, meaning that branching out into mobile games interfaces, was not necessarily out of their wheelhouse. Nintendo has effectively won the Handheld Game console race a number of times, their sales on the Gameboy, Advance, DS, and 3DS being unmatched by any console competitor. However even still, combined sales for all their handheld game consoles, over 20 years of design excellence, doesn't come close to the amount of smartphones sold globally. In 2017 alone there were 1.5 billion smartphones sold globally (Takahashi, 2018) compared to the 500 million handheld consoles Nintendo sold over 20 years. Nintendo however, has something that mobile games are known to lack, a strong brand identity and a strict adherence to quality games meant for families.

IP & Family Friendly

One key goal for Nintendo has persistently been to manage their family friendly persona and make games accessible to children and create a safe environment that parents don't have to worry about what their kids are playing (Kohler, 2016). This is not to say that the games have been sanitized of violence. Family friendly for Nintendo means that games don't feature explicit gore, alcohol use or sex (Nintendo, 2019). More recently, Nintendo has introduced safety measure in all of their online games (Safer Internet Center, 2017). For example, in 2015 they disconnected photo sharing to their 3DS spotpass feature to prevent strangers from sending harmful images to children (Oxford, 2018), and disabled voice features in online play of Mario Kart 8 (LeJacq, 2014), leaving players to only communicate with Nintendo approved friendly congratulatory text. Nintendo is notorious within the games industry for having strict third party development hurdles, partially in place to ensure their family friendly policies are maintained. (Tassi, 2014).

These third party hurdles were influenced mainly by the video game crash of 1983, known as the Atari shock in Japan (Gutman, 1987), which was a large-scale recession in the video game industry that occurred from 1983 to 1985, primarily in North America (Inoue, 2010). The crash was attributed to several

factors, including market saturation in the number of game consoles and available games, and waning interest in console games with their mono game consoles and overly simplistic games, in favor of personal computers (Bugsplat, 2014). Lasting about two years, the crash shook the then booming industry, and led to the bankruptcy of several companies producing home computers and video game consoles in the region. Analysts of the time expressed doubts about the long-term viability of video game consoles and software (Oxford, 2011). The North American video game console industry eventually recovered a few years later, mostly due to the widespread success of the Nintendo Entertainment System (NES) in 1985 (Harris, 2014). It is important to note that while the video game crash adversely affected the North American games industry, forcing the shutdown of many companies based there, the same cannot be said for the Japanese market (Harris, 2014). Nintendo released the Famicom in 1983 in Japan with great success (Ryan, 2012), allowing Nintendo to scoop up and widen the scope of their games industry ambitions. In 1986, Nintendo president Hiroshi Yamauchi noted that *"Atari collapsed because they gave too much freedom to third-party developers and the market was swamped with rubbish games"* (1986). In response, Nintendo limited the number of titles that third-party developers could release for their system each year, and promoted its "Seal of Quality" (Oxford. D, 2018), which it allowed to be used on games and peripherals by publishers that met Nintendo's quality and family-friendly standards.

Going hand in hand with Nintendo's policy of third party restrictions and in house console development, is that Nintendo is notoriously protective of their IP. Following Disney's IP approach (Goldsby, 2018), Nintendo is very careful about how they license their characters and their games. There have been obvious exceptions over the years, such as Nintendo of America's over enthusiastic licensing of the Mario IP in the early 90s (Harris, 2014) which led to movies, a TV show, lunchboxes, backpacks, dinner plates, and so on, featuring Mario's face. The frequent misuse and oversaturation of Mario across North America in the 1990s led to a bit of market fatigue, which inspired Nintendo to reinstate a policy of total control over their IP, to avoid a repeat of the disastrous 1993 Super Mario Bros movie (Stuart, 2018).

Much like Disney and their "vault", wherein family friendly film classics are "put away to rest" for a period of time until Disney feels they can make money off of the IP again (Saunders, 2017), Nintendo has also controlled re-releases of their popular games from the past. For example, Nintendo is vigilant in suing the owners of ROM sites, to force them to close for "brazen and mass-scale infringement of Nintendo's intellectual property rights" (Good, 2018). In doing so, Nintendo has made it harder for consumers to seek classic Nintendo games outside of their platforms. And again similar to Disney, Nintendo has been accused of creating false scarcity with their products as a marketing tactic, first with the slowed production of the Wii at the height of its popularity (Sloan, 2011), and more recently with the launch of the NES Classic and SNES Classic versions of their popular older consoles (Gurwin, 2018). By producing limited quantities, and making sure retailers only have a few of the consoles on hand, Nintendo builds excitement

for a product many people previously owned or played, capitalizing on nostalgia culture overinflated by Nintendo limiting access to their historic IP.

Nintendo has built their company on the idea of tightly coupling ownership and design. This is evident in multiple ways we see them behaving, from the development of their own consoles, to the delivering of strong first party games, to the execution of the game consoles using older and cheaper technology making production cheaper for the company (Ghahramani, 2015). This “Lateral thinking with withered technology” (Han, 2017) has been in use since Nintendo’s Gunpei Yokoi recommended using outdated and cheaper semiconductors and LCDs to make the Nintendo Gameboy for far cheaper than most other cutting edge consoles at that time. These mature technologies allow Nintendo to harness their creativity to make simple and fun games far more accessible and affordable for general audience, and can to some degree, contributes to Nintendo’s global success. And yet this behaviour has not always been positive for them. The tight third party restrictions Nintendo has enforced for decades, as well as their reliance on older technologies, has scared away a number of developers (Tassi, 2014). Game designers looking to develop with the most cutting edge graphics technology won’t find Nintendo to be a very welcoming place.The launch of the Switch 2017 has signalled a departure from these policies, where the Switch debuted with graphical capabilities equal to its other console competitors, and Nintendo loosened some of the restrictions placed on third party developers. These changes have seen a boon of indie games (small independently made games) being made for or being ported to the Switch (Nintendo, 2018). Nintendo finally realized after years of watching the indie programs at Sony and Microsoft produce interesting console selling games, for far cheaper than any large big budget title at the time (Tran, 2017), that perhaps indie games are a cheaper way of increasing a consoles library of games.

The restrictions on their IP have started changing in the modern gaming market, as can be seen with the collaboration with their longtime competitor Sega (Kelion, 2014) in the making of mascot driven Olympic tie in games, such as Mario & Sonic at the Olympic Games (2007). Similarly, they have partnered with Ubisoft to release Mario + Rabbids Kingdom Battle (2017) wherein we see a reversal of typical Mario game mechanics by having Mario and company equip guns to shoot at enemies, using squad-combat gameplay popularized by games such as XCOM 2 (2016). Another example is the success of the cross over beat ‘em up hit, Super Smash Bros, where different popular characters from many different IP compete for supremacy in the game. Following this process of loosening control over their IP, from excessive licensing in the 1990s to collaborative design in the 2010s, Nintendo has recently, and finally, decided to release their games on a platform they do not control: mobile phones. In the next section we will discuss in further detail the Business Philosophy of Nintendo and why the choice to start releasing their major IP on smartphones is so aberrant, relative to their digital games history that we explored in this section.

Gacha & Predatory Practices

One of the core principles Nintendo has operated under over the last several decades has been one of games as a family toy. In media and marketing (Evangelho, 2018) we often see Nintendo using the living room or family room with a Nintendo console centered on a television. The Nintendo console becomes both the living rooms' focal point and it's core appeal. In ads for the Wii we see intergenerational families enjoying play, grandma's playing Wii sports with their grandkids, parents competing with their friends in Mario Party (Oxford, N. 2018). Even the Switch had a viral marketing video where it discussed its parental control options using two of it's characters, Bowser, and his son Baby Bowser, using the feature to restrict content safely for children (Fischer, 2018). Being a family friendly organization has always been core to how Nintendo runs its business. During the 80s and 90s where most families only had one TV per household it makes sense that Nintendo would design their consoles, their games, and their entire brand around being family friendly, non-violent, and accessible for all ages. This policy of family friendliness is evident not only in the ways in which Nintendo has designed and marketed their games, but also in the ways they've talked about the purpose of games and play. According to Nintendo games and play are about learning and trying, and testing and trying again.

Nintendo's consoles have evolved over time, constantly maintaining a core principle of being a home entertainment system for the whole family (Ohannessian, 2012). This is represented in the bright and colourful worlds of their games, as well as the increasing simplicity of the user interface for their consoles. The success of this approach is evident in the success of the Wii and Switch consoles in reaching new player demographics (Griffin, 2017).

In addition to their family friendly image, Nintendo also has strong sentiments against predatory practices in the games industry, known in Japan as Gacha games, and in North America as the Freemium market, which we will further explore in the next chapter. In an interview with the Wall Street Journal (2014) then President Satoru Iwata said that Nintendo planned to use mobile games in order to "make connections with customers." Gacha games and Freemium games are frequently known for their predatory, anti consumer practices, where they prey on game players who might be susceptible to gambling addictions. Even worse, such games often target children who lack the maturity to self-regulate their purchasing habits.

In the mobile games market, a common approach is that the game itself is not the product, but instead the collected information about the game-player is a product to be sold to advertisers. For example, (Rovio / Angry Birds), and (Instragram / WhatsApp / Facebook) (Tiffany, 2019), The consumer and the information about them is the product (Uzialko, 2018). For example the purchase of major social platforms with large user bases like Instagram and WhatsApp by Facebook (Arnold, 2017) What does this have to

do with Nintendo's economic and business philosophy? Historically, Nintendo has demonstrated that they are more cautious than their competitors in adopting innovative design techniques or tools, sometimes to great effect (Ghahramani, 2015), and usually in an effort to save money on development cost. In this regard, Nintendo has demonstrated little interest in tracking consumer behaviour on a device level until after the success of the 3DS and the failure of the Wii U (Frank, 2018).

The mobile games market is unique in the success of companies known for predatory practices such as microtransactions, freemium, and obfuscated pricing structures with odd currency exchanges for in game items (Gamesparks, 2019), which will be discussed in further detail in Chapter 2. Nintendo, despite being a self described family friendly company (Whitehead, 2013) has now adopted these predatory economic practices used by mobile game companies such as King and Supercell (Draganov, 2014). And it's easy to see why, recall that mobile games make up 51% of the total games industry market. In 2018, mobile game revenues were $92 billion (Taylor, 2018), compared to $9 billion in revenue for Nintendo (Perez, 2018). For a veteran company such as Nintendo, a market of this size could no longer be ignored. When you have a heavy hitter in the games industry who has had decades of experience and success, witness the opportunity to employ their strong and well recognized IP in a way that could bring in greater profits for them, a change of behaviour is expected. In the last few decades, large companies have started to move towards investor centered market strategies, meaning that primary expectations for companies and investors alike is to maximize profits for investors (Namaki, 2012). This means that a company's ethical duty is to their shareholders, not their customers. If the only ethical way for a company to act is to produce more money for their investors, Nintendo must do what it can to keep investors happy, even if that means going against engrained "Family Values".

Conclusion

Nintendo's reluctance to change strategies in the mobile games market almost makes sense in the context of their position within the games industry. For decades, Nintendo has been a leader in innovative designs, brand recognition, and creating accessible gameplay environments for the whole family to enjoy. They have done this by tightly coupling ownership and design in the release of their own hardware on which to play their in house developed software. Through total control of this pipeline they have managed to maintain their family friendly brand, as well as use in slightly older and cheaper technologies to help support the fabrication of their game consoles. Since Nintendo's success was built on practices and values so different from those employed in the mobile games industry, it is unsurprising that they resisted entering the mobile games market. However, we have seen how Nintendo, though sometimes slow to move within the market, are capable of being reactive to the influences of their contemporaries and the market itself.

In an age of media market saturation with hundreds of options for people to play different games or watch shows or movies on several different devices, companies are realizing the restriction of people's time: the biggest consumer constraint isn't their money anymore, it's their time (Webb, 2019). To this end, Nintendo has observed the success of the mobile games industry and recognized that it is not merely a fad that will disappear. In the next chapter we will examine the appeal of the mobile games market, why its economic model is so accessible to consumers, and what different economic models it employs. In doing so we will have the basis with which to critically engage with the different games Nintendo has launched, and discuss why they might have made the market decisions they have.

Chapter 2: The Mobile Games Industry

Introduction

The mobile games market is a multi-billion dollar industry that is popular across demographics, populations, economic circumstances, and borders. Referring back to *Figure 6* from the introduction about global revenue for Nintendo versus the Mobile Games Market, it is easy to see why Nintendo would move into making games on smartphones. In this chapter we will discuss mobile game economies, accessibility of smartphones, in-app purchases, and the most dominant market model in mobile games: Freemium.

Anyone with a smartphone can play games on their phones. This means that of the billions of people who have a cellphone, any one of them can be a potential consumer for the mobile games market at any time. We will focus on some fundamental questions about player motivation, consumer behaviours, and dominant market strategies for mobile games. Questions like: why do we play mobile games? Is it because they are fun? Is it because they are accessible? Is it something to pass the time? Is it because it is social in interesting ways?

When comparing the mobile market to the console and/or handheld market, the mobile market proves to be more efficient and effective for almost all metrics. Size of audience, cost of development, development turnaround, and updates and bug fixes, are all significantly more cost effective and easy in mobile game, Some of the most successful titles in mobile games, Angry Birds (2009), Candy Crush (2012), and Clash of Clans (2012) have a player bases in the millions. Even some of the best selling games of all time, like Tetris, can't touch game sales on mobile phones. So what makes mobile games so different? And what are the trends and design ethos in these incredibly popular games? And is the mobile games industry something really that attractive?

To put this into perspective we need to understand something about consumer behaviour, relative to cost. As we will discuss later in this chapter, consumers care about how much something costs, and if you've already purchased a smartphone in order to operate in our modern connected world, where we need near constant access to our emails, messaging services, and other technologies, spending hundreds of dollars, or buying into a contract with a telecom, the operational cost for interacting with games on a smartphone is much cheaper than buying a console. To play Super Mario Odyssey (2017) on the Nintendo Switch is to buy the console individually, for about $400, and then spend an additional $70 for

the game itself. To play Pokemon Go (2016) on your smartphone that you already own, is free. A rational consumer would look at those experiences and most of the time go with the cheaper, more accessible option, especially since playing games on your phone can happen at any time, not just when you're at home, on the couch in front of your television.

Mobile Games Market

When Apple's App Store launched in 2008 it started with only 500 apps offering a myriad of services, from image touch up software, music making tools, scientific calculators, stock market analysis tools, and even some games. Today, there are over 2 million apps on the App Store and nearly 2.5 million on the Play Store (Clement, 2019). Across both the Google Play Store and the App Store of globally existing apps approximately 25% of them are games. Now think about every mobile game you have ever played, every single one you have ever heard of. Can you think of twenty five? Fifty? Perhaps at least the twelve mentioned so far in this thesis? Today there are around 500,000 mobile games available to download. Many free, some more expensive. But experts all agree that the market is overly saturated (Liang, 2010).

With so many games available it is becoming increasingly hard for mobile game designers to differentiate themselves in the market. And with such a focus on maximizing profitability, and normalizing free games with in-app purchases, making a successful mobile game is hard, especially for small development teams. Usually a large publisher backed, free game has the ability to wait for profitability to increase over time as the player base grows. This is not true for the small development team, who can't wait months for their user base to grow as ad revenue and microtransactions start piling up, if they even manage to grow their user base at all. That's not to say it is impossible, however with the normative free culture in mobile games, it is very hard to get people to pay for an experience up front. However this culture of having so many games to choose from, means there are many interesting explorations of different mechanics, themes, and genres that are hard to find in console games.

Even the most curmudgeonly of old school game player types, who like their games classic, have to admit that mobile games can be a ton of fun. From watching the fervor and sense of community people had with one another in the summer of 2016 when Pokemon Go launched; to seeing someone smile into their phone while they wait for the bus as the figure out a particularly challenging puzzle in Monument Valley (2014), or the excitement of getting to play an old favorite classic like Dragon's Lair (2009). Mobile games are fun. Mobile games are easy to pick up, easy to share, easy to access, and best of all, most of them are free or at the very least cheap! So what if tapping on or rotating a screen isn't as satisfying as manipulating a large physical controller? Games have always been about new and innovative interface design, with Nintendo often leading the pack, from Wii-motes, to the Power Glove, to literal bongos being sold with the N64 game Donkey Konga (Good, 2018). Nintendo has a truly firm grasp on using interesting

interfaces for good or ill on their own software. Making the leap to mobile interfaces is not as dramatic as one might think for Nintendo.

Mobile games as we discussed tend to fill a niche that the major AAA games industry does not. They tend to be small, easy to play games that are capable of being picked up and put down at a moment's notice. They are a quick, engaging and fun way for players to kill some time. They are an ideal pastime while waiting at the passport office or for the bus. An estimated 2.8 billion players (Lynkova, 2019) will spend a bit of time each week playing one game or another on their phones. Mobile games tend to be small in scope, especially compared to their console contemporaries, and often prioritise innovative design and ease of play over visual spectacle. Storage and memory limitations, often dictated at the platform level, smartphones, place constraints on file size that presently rule out the direct migration of most modern PC and console games to mobile. So while cross-platform integration has become the norm for some consoles, most games on the Xbox One or PS4 will likely end up on PC or the Switch, the same is not true for converting console games to mobile games.

Mobile games are cheap to make, the average cost of development for one of these games ranges from a mere $50,000 to $750,000 (Georgiu, 2019). Contrast that with Call of Duty: Modern Warfare 2 (2009), a sequel utilizing many of the same tools, same teams, the same art assets from the first Modern Warfare game, costing a staggering $200 million (Levy, 2014). While Angry Birds is a dramatically different experience from a First Person Shooter, it’s important to reflect on the reach of these games, COD: MW2 was for a time the best selling game ever, with over 14 million units sold (Leach, 2010). Console game that is. Angry Birds however managed to be downloaded onto over 500 million unique devices (Hamburger, 2011). It’s this shocking discrepancy in numbers where the profitability of the mobile games market comes from. Relatively low investment for a potentially large return. Game developers have often talked about how mobile games, though challenging due to the over saturated and competitive market, are a great place to grow your IP (Underhill, 2009). De-risking some of the up front investment cost in making games allows for a greater variety as well as experimentation within the industry, allowing for amazingly innovative games. For every extra dollar you spend in developing a game, you are increasing financial risk, especially if the intent of the game is to make money. At base, your game needs to pay for itself, both your time, and the money invested into technology and expertise should be paid for. Massive AAA titles take millions of dollars to make, from asset development, to server upkeep, to employee salaries, not to mention marketing budgets to hopefully convince enough people to purchase your game to make the whole endeavor worth it. Very few people have hundreds of millions of dollars they can just throw around at the drop of a hat to make a large game. More people do in fact have a few thousand dollars, which can be all it takes to make a popular or interesting mobile game. Games like Florence (2018), My Child Lebensborn (2018), Reigns: Her Majesty (2017), and many others are possible mainly because of this low cost to develop and easy means of selling your product on the App Store or Google

Play. These reflective and personal stories interact with touch interface mechanics in interesting and often emotionally wrenching ways.

This is not to say that mobile games are a bastion for creativity and uniqueness, in direct opposition to the overly commercial and uncreative console game industry. Just as console games can have immersive and meaningful experiences and stories, as well as regurgitated design trends that can lead to uninspiring games, so too does the mobile games industry suffer from copycats. Once a game becomes popular suddenly the market will be flooded with replicas, re-skinned or recontextualized, all in the hope that someone can capture part of the market share. Worse yet are the predatory practices that many mobile game makers engage in, hoping to find consumers prone to gambling addictions, and fuel their addiction to make more money off of that player.

In a later section we will more closely criticize freemium models and their reliance on 'whales', also known as the handful of players who will spend a disproportionate amount on mobile games. In the ongoing race to grow the mobile games market, normalizing playing games on your phone, companies have pushed to make the upfront cost of their games as cheap as possible, often free. The average cost to download a mobile game is about $0.19, keeping in perspective that most games are free, and some of them are priced as high as $15.00 (Hundeyin, 2019). However, despite this low cost to play, the most successful games in the mobile games industry are the ones that tend to be free. Candy Crush, Clash of Clans, and even Pokemon Go are all free to play, and yet have managed to to be wildly profitable within the industry, which sounds counterintuitive. The financial success free games have managed to achieve is entirely on the basis of normalizing free to play game systems featuring small, seemingly innocuous pay to play features within the game itself. These features are grounded in a culture of in-app purchases that might not be immediately apparent to players prior to them downloading a game. In the next section we'll deconstruct the operational models of in-game economies and the microtransactions that fuel them.

Economic Mobilification

The mobile games market features some of the most financially accessible software ever released. Many games have the consumer friendly price of $0, meaning for the price of a smartphone, which approximately 35% of the global population already own (BankMyCell, 2019), users can play a multitude of games. For no money, players can access a variety of puzzle games, strategy games, fighting games, twitch games, augmented reality games, and even some popular ported console and computer titles. And yet, despite many of the most popular games on mobile being free, the Mobile Games industry generates billions annually. Given the $0 price tag how are free games making so much money? If the product they sell is free, what about mobile games is generating a profit, and what impact does this market model have on the consumer?

Free mobile games, also known as freemium games, engage in a model that has players making in-app purchases to interact with in-game systems (Hundeyin, 2019). This model is characterized by restrictions on the frequency of play that players can pay to circumvent, or just wait for their turns to re-accrue. A puzzle game might have a sequence of 10 puzzles for players to try. Players have “attempts” or “lives”, a limited number of tries they get to have on a gameplay sequence. The common rule of thumb is to have about three lives or attempts in these games. As the player goes through the puzzles, the first three being very easy, usually teaching mechanics, the player will build up a sense of confidence. The fourth puzzle is a bit more challenging, a skilled player might be able to get by without wasting a life, but for low skilled players they might have to waste a life while they get the hang of the game. Levels five through seven are similarly easy again, re-establishing confidence in the player after the difficulty of level four. However, level eight is even more challenging. Even the skilled player now has to waste a life to bypass it. The low skilled player wastes the rest of their lives trying to beat it, which is frustrating! When they run out of lives a pop-up will hit them “$0.99 for three more lives, plus a power up!” To most players $0.99 is a pretty innocuous a price to pay, given that the player just had fun playing through seven levels successfully, and they didn’t have to pay for the game in the first place, so why not? It’s only $0.99, that’s practically nothing. And it’s much better than waiting for a set amount of time, say 30 minutes, for their lives to replenish. They were so close to getting the puzzle last time.

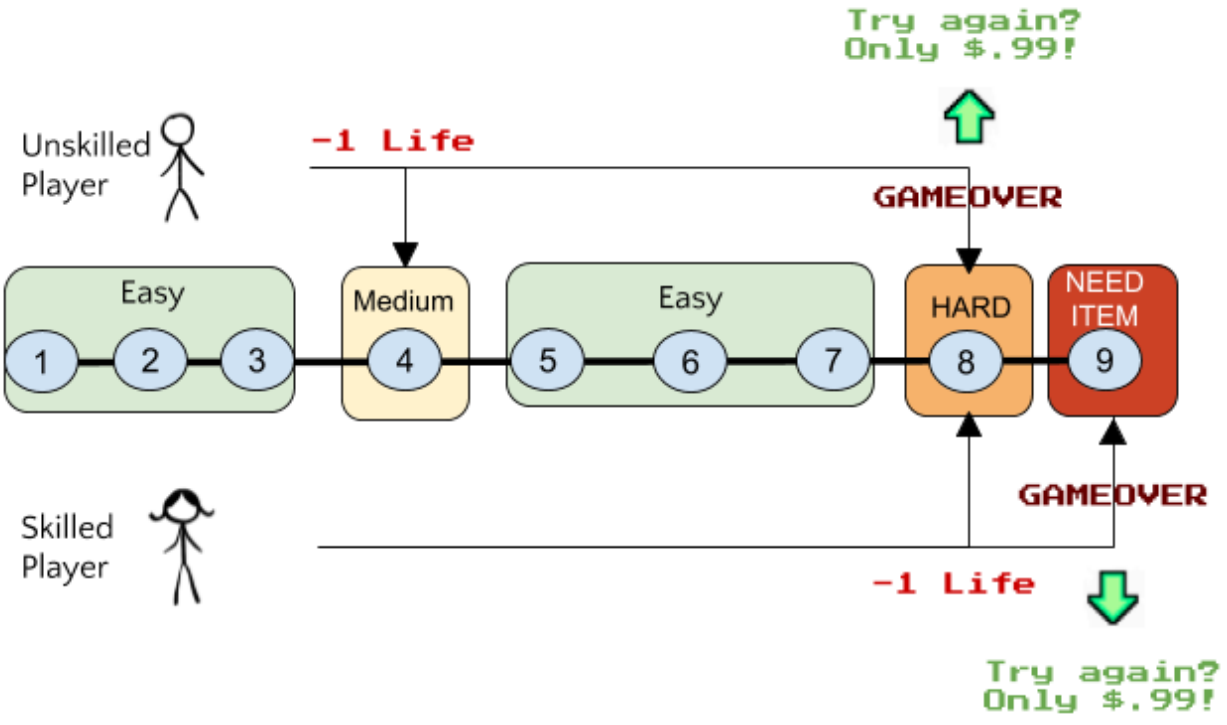


Figure 9

There is a catch however. The low skilled player might have to do this multiple times over the course of play, but we imagine the high skilled individual won't have to very often, right? Unfortunately most Freemium games are designed to incentivize people to engage with microtransactions (Koeder, 2017). It doesn't have to be a lot, or often, but these game designers want to make money, and if a highly skilled player breezes through all the levels, that's not very fair right? At least not to the unskilled player whose paid several times this month to help them get over a challenge. So some levels end up being designed to only be surpassable with the help of items that players must pay for, or get lucky enough to unlock. So while level eight tripped up our low skill player, it is level nine that even the most skilled player can't surpass without the use of items. Our puzzle game has been explicitly designed to not be beatable unless players use items, which for the most part, players need to buy. Perhaps this sounds predatory, however it is exactly how developer King made $4.2 million dollars a day on Candy Crush in 2018 (Makuch, 2019).

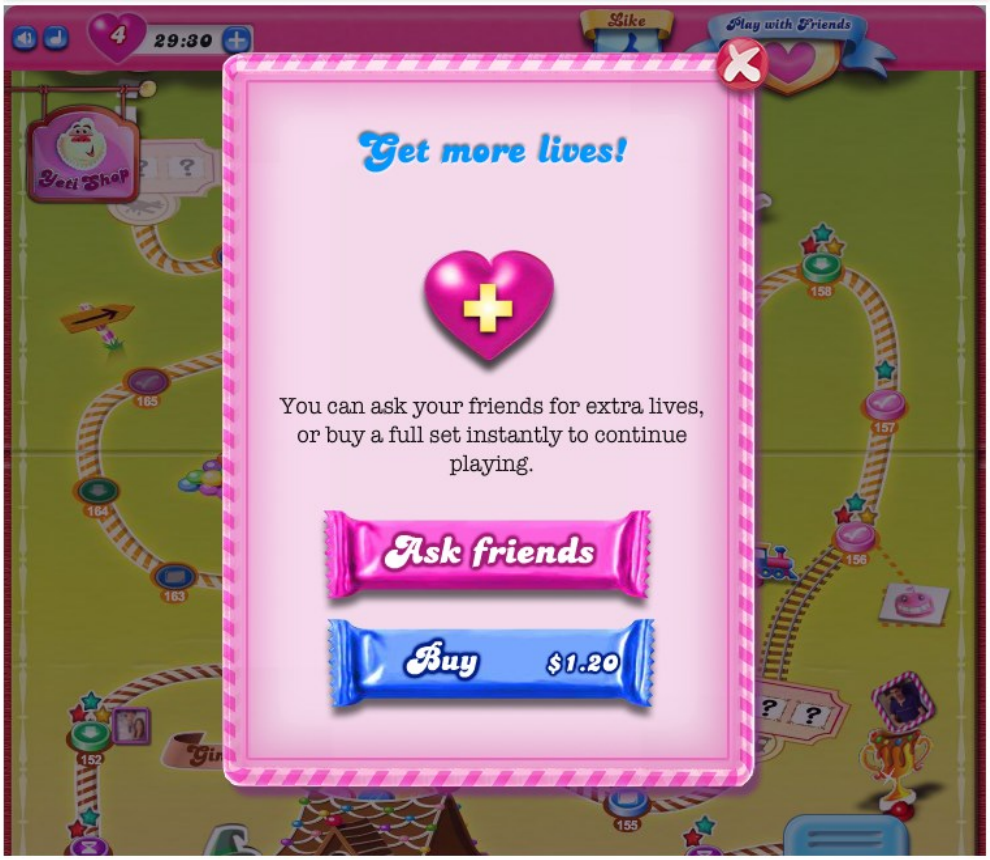


Figure 10

(https://riptidelab.com/candy-crush-saga-review/, Candy Crush 2018)

You'll note in the above image from Candy Crush, there's another way to gain lives to try another puzzle. Because of the market model Freemium games operate with, the best way to make money is to expand

the user base, thus we see a direct valuation of the expansion of the player base. In the above screenshot Candy Crush will give three extra lives for $1.20. Or, if a player is willing to invite three friends to play, they can earn the same value back. Meaning that King is valuing each new player at $0.40 a piece. Ignoring whether or not giving a friends' personal contract information to a money driven game publisher is a social faux pas or not, it is clear that for a small one time player retention bonus, King is coming up well ahead in this exchange.

If the average player is willing to drop $5 a month on the game via smaller individualized microtransactions in order to beat a few frustrating levels, that's $60 a year for our puzzle game. Now, often times people can't be bothered to actually spend any money on a free game, close to 90% of players won't even engage with pricing structures (Sterling, 2016), or will do so less frequently, such that the cost of server upkeep for the game might cost more for one player than a designer is able to make off that player. However, there is a very small chance that the player ends up being a "high monetizer" (Duchenaut, 2014) who spends $100+ a month on these small games. It is these people, which the industry commonly refers to as "whales" that most Freemium games are built to make money off of. The World Health Organization classifies whales as gambling addicts that the mobile games industry prey upon. We will take a deeper look at the social impact this particular market structure and partnering game design choices have on the mobile game player base later in this chapter.

These micro-economies that exist in each game are designed to motivate the player to keep playing. Items and abilities should encourage players to keep going after they've encountered a challenge, while still outwardly seeming fair. Buying time, turns, items, aesthetic items, and even experience should not feel like cheating, but as a helping hand from the game itself (Joorabchi et al, 2013). Now that we have a better understanding of how instances of spending come up in games, usually through intentional insurmountable hurdles, it is time to take a look at how that all falls out. While there are a myriad of ways a game can frame a microtransaction, each pricing structure usually falls into one of three categories: 1) Direct Pricing, 2) Obfuscated Pricing, and 3) Time Restrictive Motivational Pricing (Draganov, 2014).

1) Direct Pricing

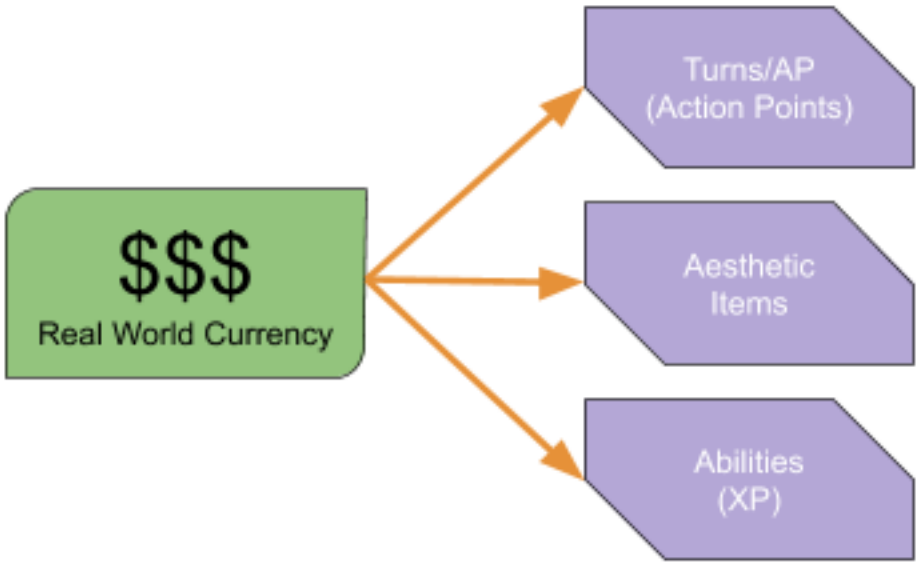


Figure 11

Surprisingly, one of the most common pricing structures is the upfront and to the point real world currency having equivalent value for goods in game. Fruit Ninja (2010) is a good example of this, having the game be free to download but then give players the option to spend real world money directly on power ups and aesthetic items, or to unlock more interesting and challenging levels sooner. Here we know the direct dollar value of different play incentives. However it is important to note that the Left Digit Effect (Kenneth, et al 2009) comes into play in this model, where people believe $0.99 to be much less costly than $1.00, despite being separated by only one cent. Mobile games using Direct Pricing tend to lean on this psychological phenomenon.

2) Obfuscated Pricing

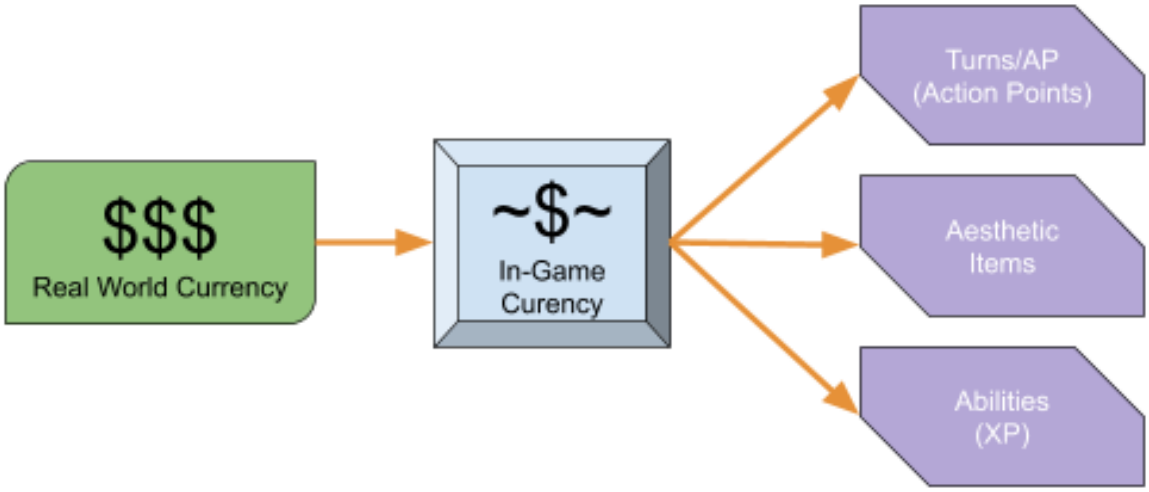


Figure 12

By divorcing actual monetary value from the items purchased, games are able to more easily motivate players to buy more items. Players can use their real world currency to buy a single in-game currency, individualized for each game. Buy gems, stones, diamonds, pokecoins, carrots, and so on, none of these currencies are exchangeable with another, and all used to purchase items whose prices are hard to delineate. In the Pokemon Go example, players can buy 100 pokecoins for $0.99, meaning each pokecoin is worth about a cent, right? Except if a player purchases pokecoins in bulk, say 14,500 at once, that costs $139.99, which is less than one cent, about $0.009. So if an in game item costs 100 pokecoins, is it about $1 or is it about $0.90? The obfuscated pricing structure is designed to motivate players to purchase “good deals” by spending more, to make their dollar go further.

3) Time Restrictive Motivational Pricing

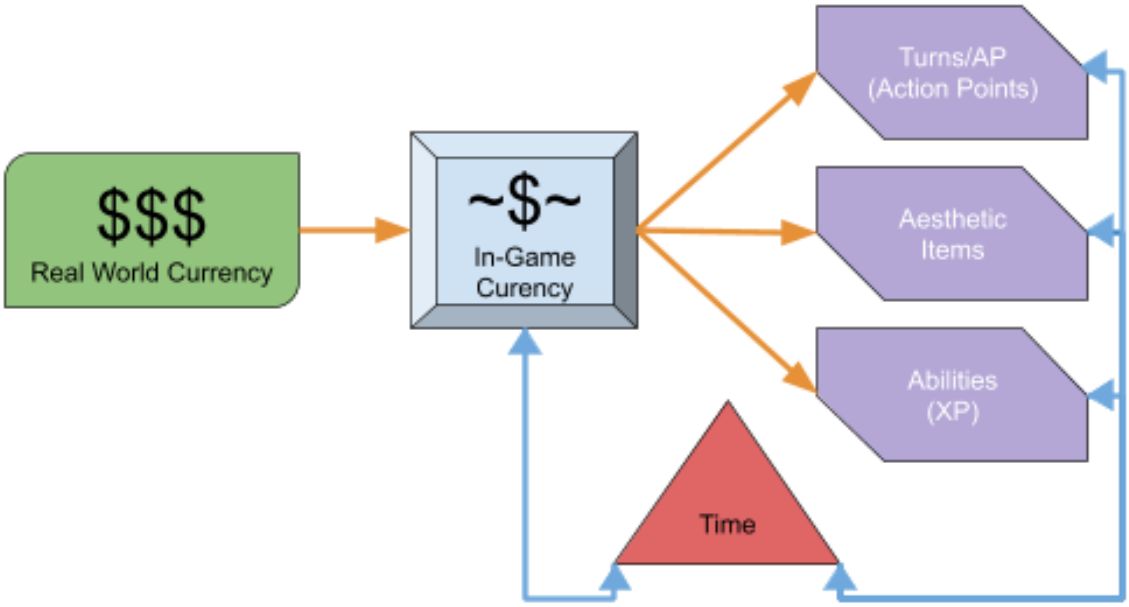
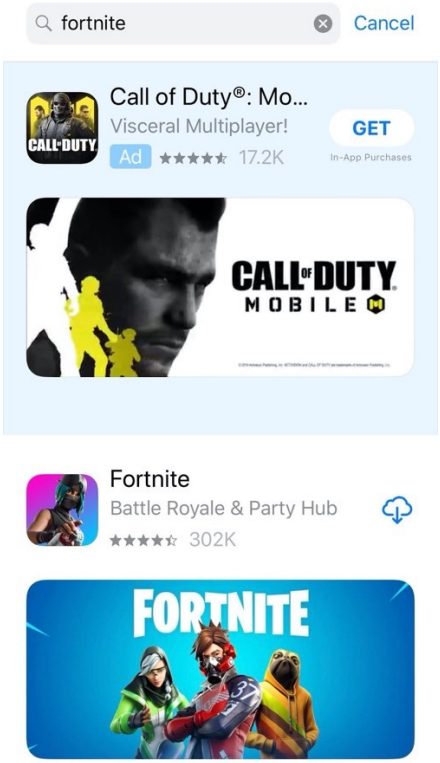


Figure 13

While not touched on directly in the other pricing structures, time is commonly used as a measure in our pricing structures for in game microtransactions. Typically some resources will be depleted and then can be replenished either by paying a set price, or by waiting for a set amount of time. These time periods vary, but typically it is just long enough to completely throw off a players immersion if they are made to wait. Our Candy Crush example is a good reference point for this, where to gain extra lives to continue playing, players pay $1.20, which is Direct Pricing. Or, players can wait for 30 minutes for one life, up to a maximum of three to replenish. Given how quickly a player can get through one of Candy Crush's levels, 30 minutes can be particularly painful wait for another try. Time structures can take many different shapes. Some games utilize a retention bonus schema (Smith, 2012), where players get perks for every day in a row that they play. Pokemon Go uses a similar mechanic, having players earn bonuses for coming back to play every day in a week with a greater return on random items and experience.

Simply looking at pricing structures in games however does not give us a full picture of monetization in free games. Many, if not all of these games have an advertisement structure built in. So while for the sake of argument we pretended that a player who pays nothing to a Freemium game is effectively worthless, we know that isn't true. Companies can introduce ads into their games, which players are forced to view over the course of play. Companies are paid a small amount of money for each view, which can generate a significant amount of money if a game is played by millions. For the sake of simplicity let's say a game designers gains $0.01 for every advertisement viewed. And this particular game has a user base of 1 million players. Pretend that each of those players experience a single ad a day for a year, that means

the company is taking in $3,650,000 annually. It's becoming a bit more clear why "inviting friends" is such a valuable commodity in this model. Especially when the average mobile game has eight ads per hour of gameplay (Bratuskins, 2018).



(Search "fortnite" get Call of Duty)

Figure 14

Ads permeate all levels of these mobile games, these ads are even built into the structure of the online stores used to sell these mobile games. Open up the Google Play store, search with exacting language for an app or game you want, liberally using quotation marks to find exactly what you want, and still you will find a knockoff version of the app you're seeking at the top of your results denoted as an ad. Now, when we are working with a culture like this, it is no surprise that advertisements pop up everywhere in otherwise free games. Some games have managed to use ads as a way of mitigating the microtransaction pricing structures listed above, while also allowing players to continue playing when they've run out of actions or lives or turns, rather than waiting for a set time period. My Horse Prince (2016), the horse dating simulator game did just this, asking players to spend some of their time watching a quick 30 second ad, instead of asking for money outright. Similarly some games offer the choice between waiting for a set time, watching an ad, or just paying money directly, like with Mystic Messenger (2016). These two models tend to be more popular with consumers (Shaul, 2016), in a similar vein to how commercial breaks were used by cable television networks. Then the most successful games tend to be a bit more shameless, peppering ads here and there between levels and experiences, not allowing players

to opt in to watching them, while also asking you to fork over real money for the privilege of getting to play more. Clash of Clans (2012) and Candy Crush (2012) both are known for this obnoxious practice, each having player bases in the millions (Khalid et al, 2015).

There are mobile games that exist completely outside of this structure however, completely removing the need for microtransactions in mobile games altogether. These closed pricing structures have players pay for the game in its entirety up front before they are able to play anything. Critically acclaimed Florence (2018), My Child Lebensborn (2018), and Downwell (2015) all fall into the category of “Premium Mobile Game” (Atila et al, 2014). These games operate in a similar manner to traditional digital games, where for an upfront sale price the player earns the full game experience. This is obviously attractive for developers in the rest of the games industry, for we have witnessed a number of popular games from older consoles, and also more recent indie titles eventually being ported to a mobile interface operating under this model. Classic games from the 90s and early 2000s like Final Fantasy VI (2015), Knights of the Old Republic (2013), and Planescape Torment (2017) have all seen a resurgence of popularity, and none of them priced under $10.99. Similarly popular titles from the last few years have made the jump to mobile, despite the change in interface, Stardew Valley (2018), Minecraft (2011), and Hotline Miami (2015) have all seen success on mobile phones.

A simple closed pricing structure for Premium Mobile Game

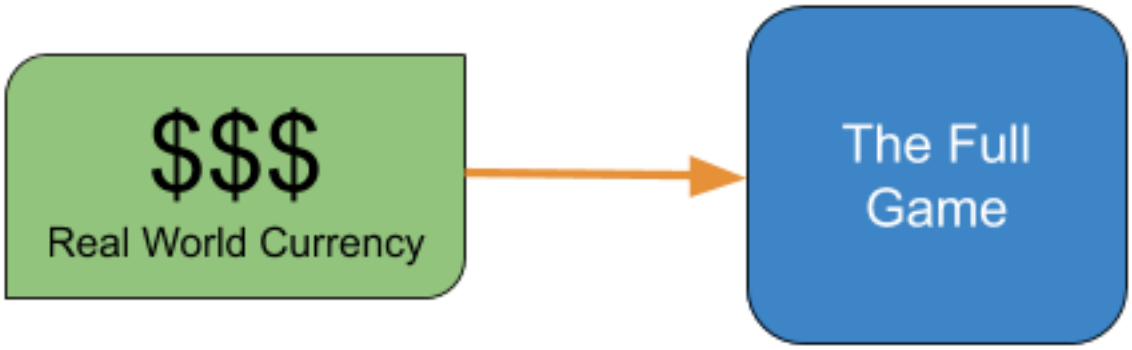


Figure 15

So while Freemium models featuring microtransactions are by far the most dominant and popular by game makers in the mobile game industry, it is possible to price a game such that people will still want to play it even if they must put in an upfront cost. In the Fall of 2019 Apple launched it’s Apple Arcade offering, where players can pay a subscription fee to access reams of ever updating games (Brown, 2019). Similar to the subscription fees popularized by TV and Movie streaming services like Netflix and Amazon Prime, Apple now allows players to pay for an advertisement free game streaming services. With the announcement for the Stadia from Google in early 2019 (Evangelho, 2019), this subscription model may start to permeate all levels of gaming in and outside of the mobile games industry.

Subscription based Pricing Structure

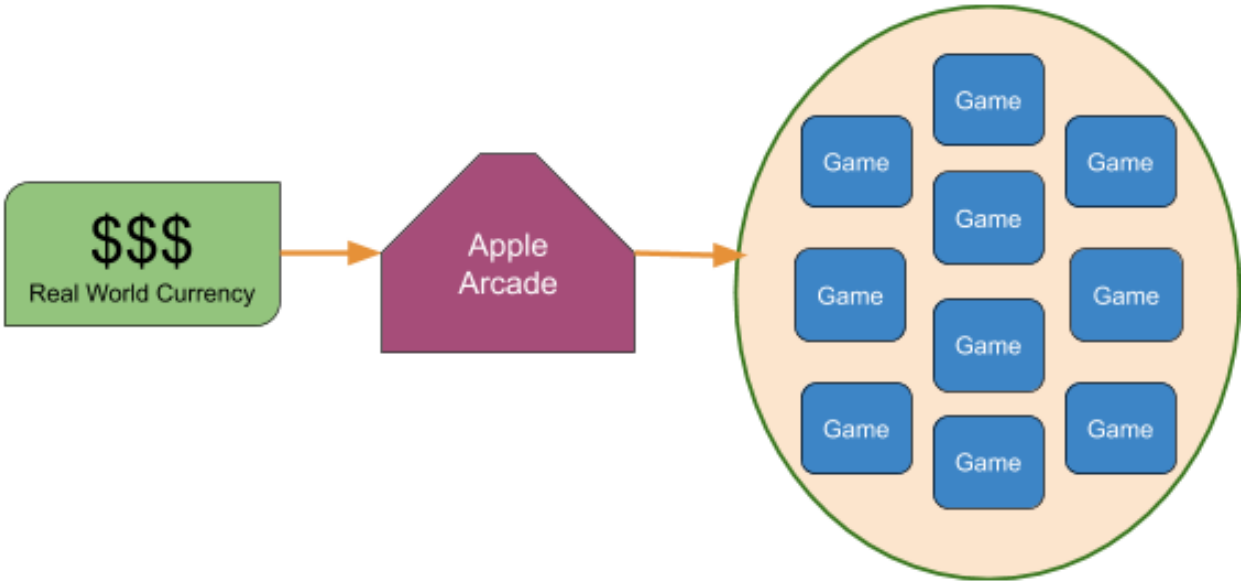


Figure 16

Addiction & Gacha

Mobile games can be highly addictive. In 2018 an 'Internet Gaming Disorder' was added to the list of mental and behavioural disorders in the International Classification of Diseases (ICD-11) as a recognizable and clinically significant syndrome, when the pattern of gaming behaviour is of such intensity that it results in distress or significant impairment in personal, family, social, educational or occupational functioning. As early as 2013 the disorder popped up in the DSM-5 as a mental and behavioural disorder (WHO, 2018). We know that online gaming can be a problem, we know that mobile gaming has potential impacts not only on the financial well being of players, but also on their mental health. These games with their push notifications for low engagement, short interaction periods, and correlative feelings of success are fertile ground for addictive tendencies to develop in their players. "Just one more try", or "That's not too much money" are common refrains heard from Mobile Gaming addicts (Balakrishnan, 2018). How does the mobile games market perpetuate this behaviour and what impact does it have on players?

First we'll take a deeper look at what motivates a company to use a Freemium model. As explored in the Economic Mobilifaction section, Freemium refers to the money making practice within the mobile games market characterized by downloading free games that are stuffed full of microtransactions ranging typically from $0.99 - $4.99, but can skyrocket up to hundreds of dollars (Koeder, 2017). This practise is

designed to make the player fail to track how much they are spending. The typical Freemium or free-to-play app will target the player with paywalls or stoppage in play that can be whisked away with the low low transaction of $0.99. This often predatory practice forces the players to encounter these paywalls frequently enough that over the course of several levels they may have inadvertently spent upwards of $10 to $20 in a short play session (Hundeyin, 2019). As previously discussed, not all Freemium apps are made equal however, some are simply ad-supported apps that offer an in-app purchase to disable the ads. Sometimes these pricing structures are direct, and sometimes they are obfuscated by complex exchange systems where players need to swap real money for in game currency.

This practice is facilitated by Apple and Google Play store, who both send out bi-weekly summaries of in-app purchases, instead of a receipt for every transaction. There is the argument that it would be more costly for Apple to send out a single email for every single small purchase a user makes. While this might be true, imagine a player opening up their inbox after an evening of playing a Freemium game to find twelve email receipts. Suddenly individualized, one time $0.99 purchases don't seem so small and innocuous anymore. They quickly pile up, but are designed to not be noticed by the casual player. Gambling addicts often suffer from confirmation bias (McCusker et al, 2011), meaning that if they have the opportunity to ignore or brush off their excessive spending habits to fuel their addiction, they will. No one likes admitting they have a problem or that their behaviour is bad for them. Companies engaging in Freemium models, similarly do not want addicts (Labelled as "whales" by the industry), to notice their spending either.

Since the advent of in-app purchases on iOS in 2009 (Silver, 2018), game developers have found new ways of generating more and more revenue from players. The economy of it is simple enough, lowering an app's price to zero can lead many more people to download a game since it costs nothing to start playing. The trick then becomes turning those downloads into profit, either through ad revenue, episodic downloadable story content, or through the exploitation of a type of customer commonly referred to as whales. Freemium games have long since surpassed typical single purchase games in terms of profitability. In 2013 alone, in-app purchases' share of the Apple App Store's total revenue from the top 200 apps grew from 77% to 92% (Georgiou, 2019). A 2014 study by Liu et al, of Freemium mobile games found that 67% of in-app purchases were between $1 and $5, but these purchases only made up 27% of total revenue, while 9% of revenue was from purchases of $50 or more. Overall, 50% of mobile gaming revenue came from the top 0.15% of mobile gamers making purchases. These heavy spenders, have been directly compared to the "big fish" gamblers courted by casinos. To generate vast profits, Freemium games don't have to hook everyone; instead, they only need to attract a small fraction of diehard fans with credit cards. Do not be fooled however, this is a predatory way of making money in games. Studies done on the function of Freemium games and how people characterized as whales play them have demonstrated that the ways in which it affects dopamine production is similar to that of addicts (Tassi,

2014). Many Freemium games seek solely to profit off their players, rather than foster an immersive and engaging experience. There are countless stories globally of players going into debt, losing their homes and even their lives in the face of making too many microtransactions.

These predatory, basically gambling, economic models have seeped their way into console and PC gaming, all in the pursuit of higher profit. In 2017 EA had a major scandal, prompting the European Union to outlaw Loot Box systems, or at the very least render them more transparent (Campbell, 2018), later prompting the American FTC to examine doing so as well. Loot box systems are a tool used by many games engaging in multiplayer interactions, where players can spend in game currency, or real money, to randomly roll an invisible dice that will give you a few items, aesthetic skins, characters, and other multiplayer prestige items. This practice has been popularized and used by many different companies, from Blizzard and their Overwatch (2016) games, to Epic Games and Fortnite (2017). EA's Star Wars: Battlefront 2 (2017) multiplayer had a problem with their unlocking content systems. For players to unlock the muchly venerated Luke Skywalker or Darth Vader playable characters, they could either play for over 1000 hours and hope to be lucky enough to unlock them. Or they could pay to randomly roll invisible dice for the chance to unlock the characters. Owen Good of Polygon, famously wrote in 2017 about how he had spent $90 trying to unlock Darth Vader and until that point had been unsuccessful, having opened nearly 100 loot boxes at the time of his publication (Good, 2017). The EU fairly recognized that these loot box systems are unfair, predatory, and tend to target teens and young adults most often. Using randomness as a tool, even a digitized version, to dole out random rewards to players, sounds awfully similar to how slot machines work in casinos. Loot crate systems are glambling. At least that is what Belgium has to say on the topic, having banned the features in all games sold and played in their borders in 2018 (Locklear, 2018).

Now that Nintendo now is moving into the mobile game space, and has launched several of their IP into a myriad of different economic models in this market is not necessarily surprising, every company is trying some sort of mobile integration now. However, Nintendo still values family friendly play, which feels to be an almost impossible task in mobile games. So what is Nintendo to do? How do they negotiate the drive for making money, while still mitigating harm for their consumers, and the families that they have made a part of their brand identity?

Conclusion

Mobile games, though smaller than their larger budget console contemporaries, are still capable of being complex, fun, and engaging. They sample heavily from popular genres, like Real Time Strategy, Puzzles, Platformers, and fast reaction Twitch games, and while smaller in scale when compared to their console counterparts, still manage to rake in billions of dollars annually. That mobile games are profitable is

surprising given the dominating market model which mobile games operate under is selling free to download games. Mobile game makers and their juggernaut publishers like Rovio and King, have perfected the Freemium market model. By implementing microtransactions for uninterrupted play, they've managed to create accessible games that anyone with a smartphone can play. However, something is rotten in the state of mobile games.

By relying on Freemium models, and in an effort to impress shareholders, many mobile games have relied on predatory practices that allow them to ignore any moral and ethical standards they would otherwise follow, to capitalize on children, young adults, and gambling addicts. Many mobile games frame their microtransactions as small and petty innocuous things, relying both on the Left Digit Effect, as well as humans natural inability to log small, infrequent spending, such that someone could very quickly inadvertently spend tens to hundreds to thousands of dollars a month on a small puzzle game. By focusing on retaining whales, or people prone to addictive personalities, with access to credit cards, these games are explicitly making money by directly feeding addictions. Coupled with large ad revenues, the most successful games tend to be the most predatory. So while billions of dollars are made each year in the mobile games market, it is often done so off the backs of human suffering, or at the very least through opaque and complex game economies that thrive on real world dollars.

It makes absolute sense why Satoru Iwata was so adamant in 2011 that Nintendo would never enter into the mobile games market. Not only because of Nintendo's stranglehold on their IP, and the tight coupling of software and hardware; but because Nintendo is a family friendly video game company, and mobile games are where anti-consumer practices thrive. Yet Nintendo still moved forward into the mobile market, with plans coming together before Iwata's death in 2015, and their mobile games beginning to launch in 2016. The mobile game strategy that Nintendo is implementing, to varying success, needs to grapple with both the market pressures that exist in mobile games, but also maintaining the strength of their brand, as well as holding the trust of their lifelong fans.

In the next chapter we will examine some of Nintendo's biggest mobile game launches, as well as many of their failures, applying what we know both of Nintendo's culture, economic strategies, and brand identity, and our understanding of the mobile games market. By looking at Miitomo, Super Mario Run, Fire Emblem Heroes, Animal Crossing Pocket Camp, and Mario Kart World Tour, we will have a better fundamental understanding of Nintendo's ongoing mobile games experiment.

Chapter 3: Nintendo on Mobile

Introduction

Nintendo has incredibly strong IP. How long has “playing the Nintendo” been synonymous with playing games on a console for the uninformed? Topping hundreds of “Best Mascots in Gaming of all time” lists, Mario is one of the most recognizable characters ever in gaming (Knight, 2014). Nintendo, for better or worse, has been one of the faces of gaming since they entered into the market in the 1970s. So as times change and audiences have grown, Nintendo has grown with them. From pioneering and perfecting the handheld gaming device, to making the living room a place of interaction and family fun, Nintendo has had an incredible impact on the culture of gaming. But now in the digital age, with constant connectivity, and access to computation devices hanging out in people's pockets, audiences have been looking for something new. In an era of esports and competitive gaming, audiences have started turning to action packed multiplayer games, and with few exceptions, Nintendo is being left behind in that regard (Wolf, 2019).

Nintendo has persistently struggled with negotiating the demands of the market, while maintaining that which their brand is known for: generating accessible and fun experiences for the whole family. There is very little about competitive League of Legends (2009) for instance that is family friendly, what with players frequently shouting rude, racist, and misogynistic expletives at each other, with little recourse from the game makers (D'Anastasio, 2019). Even Nintendo’s Super Smash Bros franchise (1999, 2001, 2008, 2014, 2018) has seen a hypercompetitive and toxic esports community build around it. Building games for an audience that is known to be toxic, while lucrative, is not necessarily a great way to manage a family friendly image. However there is an ever expanding market that Nintendo as of 2016 had yet to touch.

The mobile games market is a setting rife for opportunity. Many games companies had been expanding into small tie-in games for mobile, typically free, to help market their games, Fallout Shelter (2015) releasing on mobile in the build up before Fallout 4 (2015), among many others. Konami famously nearly stopped all AAA development to focus on mobile app support, leveraging their IP for sales in the mobile market, and have seen quite a bit of success in doing so (Suckley, 2017). Nintendo arguably has stronger IP that can more easily bend into smaller games that are easy to be picked up and put down.

Nintendo has typically sold well across North America. As we discussed in Chapter 1, some Nintendo consoles have sold in the 100 of millions of units. Nintendo knows how to be popular and they know what

success looks like. However in the unification of technologies via smartphones, fewer and fewer people are willing to buy multiple game consoles, especially when they have a perfectly serviceable and portable machine they carry with them day to day. It is hard for a Nintendo handheld console to compete with a phone that, in addition to playing games, can surf the web, provide a map tool, take phone calls, text family and friends, and take high quality photos. About 262 million people in North American have at least one smartphone right now (Statista, 2019). Who wouldn't want a cut of an ever growing market, who for the most part are looking for more entertainment opportunities. It makes sense from an economic standpoint why Nintendo chose to enter into the mobile games market. The only problem was that they needed to learn the different potential market models that exist, and what the market would bear in terms of pricing.

For Nintendo moving into the mobile games market could be risky. Not because of a low chance of success or the investment cost, but rather the dominant market model of the mobile games industry has the potential to harm Nintendo's brand. Nintendo is a family friendly games company. And yet as we explored in Chapter 2, many of the financial models free mobile games operate under can be used to leverage gambling tendencies in players to extort them of money. The most financially successful games in the mobile games market are all free games that use microtransactions and pay to play to incentivize players into continuing to play. There is nothing about gambling addiction that screams family friendly. Quite the opposite actually. If Nintendo is to engage in the mobile games market, in order to maintain their brand as the games company parents can trust their kids with, they will need to be careful about the types of games they make, and the types of player retention structures they use. The alluring profits of predatory mobile game practices could easily draw Nintendo in, but they would also make it difficult for Nintendo to retain or recover their family friendly brand.

Nintendo has experimented with a few different economic models since entering into the mobile market in 2016. For our purposes we will categorize them as: Risk Mitigation Experimentation or Tests, Premium Mobile Games, Free Games, and their future. We will categorize the following games into these aforementioned categories and explore whether or not they were successful from a strategic point of view: Miitomo, Pokemon Go, Super Mario Run, Fire Emblem Heroes, and Animal Crossing Pocket Camp, and finally what the future of Nintendo Mobile games holds with Mario Kart World Tour and an upcoming Legend of Zelda title. We can think of Nintendo's Mobile Game plan as an extension of their Blue Ocean strategy (Jones & Thiruvathukal, 2012), to access the gamers who would not otherwise play games. Nintendo had been extremely successful with the strategy with the Wii, and by launching their recognizable IP onto devices that most people own, they would have the ability to reach people who had never played a game in their life, or at least who would not describe themselves as a game player. Someone who owns a smartphone might never buy a Nintendo Switch, but they already have a smartphone, so why not make games for that device?

Nintendo's Mobile Game Execution

Starting in March 2016, Nintendo released software that game critics across the world would have thought was impossible only a few short years ago, releasing a mobile game for iOS. Miitomo (2016) was a social networking mobile game wherein players could take their Nintendo avatar (Mii) that they designed either within app, or using the My Nintendo social networking tool that came bundled with the Wii, Wii U, 3DS, and The Switch, and import their avatar to engage in social networking activities. Miitomo was the first in a series of mobile games Nintendo would release based off of their powerhouse IP. Gameplay ranged from playing minigames, to in-app purchases where players could buy aesthetic upgrades for their Mii. Miitomo utilized a Freemium structure, wherein players could use real world currency to make in app purchases.

Continuing the trend of surprising video game commentators and critics, Nintendo released Super Mario Run in December of 2016 to mixed results. Where Miitomo and Pokemon Go had been free games, with in app purchases, Nintendo attempted to enter into the mobile market with a "premium app" with Super Mario Run (Frank, 2017). In other words, Super Mario Run cost players $13.99 CAD to download and play. For the most part, most of the mobile games that Nintendo has released since 2016, have been as publisher and developer. Nintendo is a somewhat unique entity in the games industry, both as console makers, as well as game developers and publishers for their own consoles. Moving into mobile game development, this is the first time that Nintendo is publishing games, not on their own consoles. However, with the exception of Pokemon Go (2016) and Dragalia Lost (2018), each mobile game comes from an IP that Nintendo has a pre-existing game development relationship with.

The next powerhouse IP that Nintendo used for their mobile game strategy was Fire Emblem Heroes in February 2017. Unlike Super Mario Run, Fire Emblem Heroes used a more traditional free-to-play model; players could play as many missions as they could while their party still had stamina, which otherwise refreshes by waiting some amount of time or by using in-game purchases to restore stamina and heal the party. In-app purchases could also be used to purchase new heroes for the player's party. This strategy led to Fire Emblem Heroes being the most financially successful mobile title Nintendo has released so far. More recently Animal Crossing Pocket Camp, brought to us in October 2017 saw players taking on micro-interactions with their anthropomorphic animal friends, and using micro-transactions to be successful. Nintendo once again used a free-to-play mechanism, allowing players to purchase in-game items that reduce activity cooldown timers.

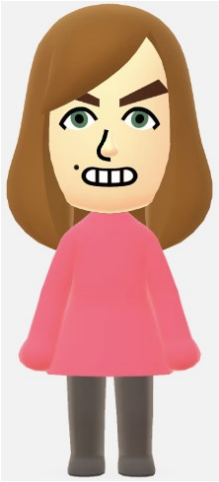
Risk Mitigation & Experimentation

What is the greatest factor stopping companies from investing in a new and exciting market? The unknown, or in business terms: Risk. Investment risk is the probability of loss to be expected in the return on investment when exploring a new endeavor (Olsen, 1997). Basically it's measuring uncertainty, or trying to quantify it in a manageable way. Risk is one of the greatest blockers to innovation and exploration, companies don't tend to like not seeing returns on their investments. So what is needed in order to fulfill a risk assessment? Data and understanding of your market and industry. Given their storied history Nintendo has plenty of experience with the latter, and not very much with the former when it comes to the mobile games industry. They had never launched a mobile games before, prior to 2016, which meant outside of industry reports from other companies, they were very short on data about mobile games and how they perform. What is player retention like? How much money is gained over what time period? How long do people play for? Short of purchasing a mobile games company, Nintendo had few options in acquiring the data they needed in order to be successful in the mobile games market. Which is why they utilized a two pronged approach: 1) releasing a small, minimally interactive "game" Miitomo, leveraging their IP, and 2) Giving the go ahead for HAL Laboratory to partner with Niantic games to launch Pokemon Go. Whether or not they learned what they needed to from these games will be explored in the next section.

Miitomo

Though often overlooked for Nintendo's flashier and more recognizable IP's, Miitomo (2016) is significant to the overall picture of Nintendo's experience and behaviour within the mobile market, both as the first ever mobile game Nintendo developed in-house, as well as the first game they ended development for, having stopped support for it in 2018. Miitomo was developed in house at the Nintendo Entertainment Planning and Development unit of Nintendo, and therefore is an IP owned, created, as well as published by Nintendo. We can think of Miitomo as the first, relatively low stakes toe dip Nintendo took, before launching themselves, and their larger more successful IPs, into the mobile games market. Unlike the games we typically see out of Nintendo, where the game acts more as a social networking game, than any of the high flying action, or playful interactions we normally see from Nintendo. Utilizing the popular Mii interface that has come packaged with each Nintendo console since the Wii, Miitomo is a social networking game in which players can customize their Mii and their room, and send messages to friends. Mii's are the tool Nintendo uses to allow players to personify themselves in game worlds. Initially used as a doll creation tool where players could embody themselves and design profiles around their cutified appearance. Though never critically popular, in the way say Mario, or Link have been popular, Mii's were an accessible gateway by which new game players (recall the Blue Ocean strategy, where Nintendo sought to bring more non-game players into the fold) could see themselves represented in game. Nintendo has even done an admirable job immersing your designed Mii into several of it's games, from

the epically popular Wii Sports, to more recent titles like Mario Kart 8 (2014), and Super Smash Bros Ultimate(2018).The name Miitomo is also significant in the making of a social network game, where “tomo” in this context translates to “friend”, ergo Miitomo is to Mii-friend, making friends using your Mii (Nutt, 2015).



Maren’s Miitomo Mii

Figure 17

Miitomo managed to be a relatively low cost to develop, relying mostly on the preexisting Mii structure that had been built into both the Nintendo 3DS and Wii U consoles, the Miiverse (2012). The Miiverse, discontinued in 2012, was a social network featuring the somewhat popular Mii characterizations. Integrated into every game on the 3DS and Wii U, Miiverse allowed players to interact and share their experiences through their own Miis by way of drawings, text, screenshots, and sometimes game videos. Miitomo on smartphones was merely another way to interact with the Miiverse structure, say like interacting with Twitter on your phone, versus in a web browser on your computer, and featured no games like Miitomo would later. Though never as popular as contemporary social network platforms, with the largest active user base rounding in around 3.6 million people (Buckley, 2018), Miiverse was known to have thriving and active meme community, publishing a large number of meta level jokes to share across the internet (Sakamoto et al, 2014). An entire thesis’ worth of analysis could be done on the unique, absurdist meme culture on the Miiverse platform, especially with it’s predominantly young user base.

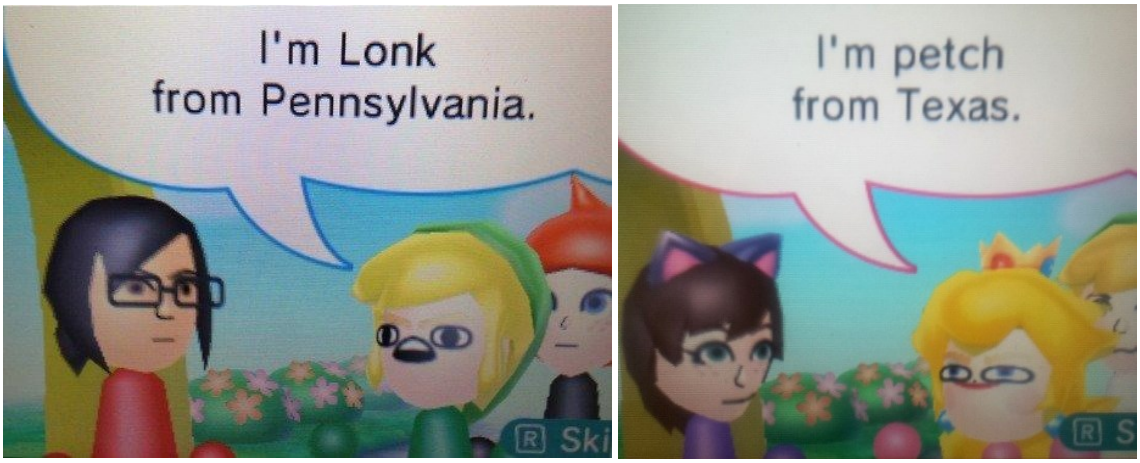


Figure 18

(https://knowyourmeme.com/memes/lonk)

By using the preexisting social network structure of Miiverse, Nintendo was able to transplant the popular social mechanics that already existed in Miiverse, and structure them for exclusive smartphone user interfaces. With a simple interface and limited actions players could take, it is difficult to actually classify Miitomo as a game. Players could build their own Mii avatar in a character creator, develop it's personality, and then send messages and photos to friends. With the later addition of Miifoto, an AR photo taking tool allowing players to take pictures of their Mii's in the real world. In order to gain further customizability of appearance and expression players would play the pachinko like game, Miitomo Drop, wherein players would use tickets to play, allowing for random drops of items. As is typically in freemium games, players could also use the in game currency, Miitomo coins, to purchase specific items in the shop.

By way of incentives, aside from adding new friends and and checking in with your friends via the app, there was little keeping players engaged in Miitomo. Far from a Twitter or Facebook, Miitomo was a sanitized version of a social network platform, where voice, expression and pictures sent were framed in the child friendly Nintendo Mii format. Players couldn't swear, could only send photos featuring their Mii, never themselves, and could only send short messages. In this way Miitomo was a safe entry point for young children, already fans of Nintendo to engage with social media in an environment that was exclusively geared towards social interaction and exploration of expression through appearance customization.

Miitomo utilized two forms of currency: 1) The Game Ticket, used to engage with the Miitomo Drop game, allowing players to randomly win a customization items for their Mii. 2) Miitomo Coins, which were also used to play Miitomo Drop or buy items directly from the store. Both coins and tickets would be available periodically through engagement with Miitomo, sending your first message of the day, sending a picture,

and adding new friends would all garner players a ticket or coin reward. The most expensive items in the shop were special clothing items valued at 6500 coins or about $6.99 CAD in direct exchange.

Miitomo price breakdown

Miitomo Coins	Price in CAD
1000	$1.99
3150	$3.99
5500	$5.99

Figure 19

A mix of low user interaction, fed by a cycle of no new updates in over nine months (Byford, 2018), server upkeep being too expensive, and an interest in launching core IP led to Nintendo shutting down Miitomo on May 9, 2018. Although Miitomo evidently didn't set the world alight, it's a surprisingly swift end for what was a widely hyped app upon its launch, having only existed for just over two years (Frank, 2018).

Miitomo despite its short life gives us a peek inside of Nintendo's strategy with mobile games. Using Mii's was never going to garner a massive user base, the peak popularity of Miiverse was a fraction of what Nintendo's other games saw, and was always an ancillary function to the consoles themselves, and not the games that people wanted to play. Also given the extremely young user base of Miiverse, it is no surprise that Miitomo only really gained any traction with young people. Miitomo also lacked any game features, with the exception of the gambling adjacent Miitomo Drop that players could pay to play more. However, given the limited features of the app, and the connectivity required to interact with others, Nintendo was able to gain valuable insight into how users play with their phones. Being able to track how long someone is willing to interact with a game is useful, as Nintendo would then have a better picture of where to focus their efforts.

Pokemon Go!

It is almost impossible not to have heard of Pokemon Go. In the summer of 2016 a person could find themselves wandering around late at night, in parks and on the streets, surrounded by cheerful groups of people, eyes glued to their phones. The blue light glow on their faces showing their smiles in the dark, as these people wandered around with friends and family, and perhaps even friendly strangers, all of them excited about the same thing: Catching as many Pokemon together as possible. Pokemon Go is an augmented reality (AR) mobile game developed and published by Niantic for iOS and Android devices. A

part of the Pokémon franchise, it was first released in certain countries in July 2016, and in other regions over the next few months. The game is the result of a collaboration between game developers Niantic and publisher Nintendo by way of IP owners, The Pokémon Company. Nintendo has always had exclusive rights to publishing Pokémon games via the IP owners, The Pokémon Company, but Pokémon Go is the first major success of a company based outside of Japan achieving great financial and critical success, Niantic being a California based games company. Pokémon Go uses the mobile device's GPS to locate, capture, battle, and train virtual creatures called Pokémon. The game is free to play; it uses a Freemium business model and supports in-app purchases for additional in-game items. The game launched with around 150 species of Pokémon, which had increased to over 460 by January 2019.

With development occurring over at Niantic, the developers of the lesser known AR game Ingress (2012), Nintendo was able to take a back seat and watch as one of their popular external IPs skyrocketed to success in the market. Nintendo is not the sole owner of the Pokemon IP. Nintendo is however a key stakeholder, and the publisher for the games the Pokemon Company releases (Musgraves, 2016). With millions of players globally hitting the news for all sorts of antics as they attempted to play Pokemon Go in the real world. Quiet historical neighbourhoods became hotbeds for Pokemon Trainers to find Pokemon and Pokestops (Bartko, 2016). A few players even died, so focused on their phones while they walked around (Sharwood, 2017), Niantic famously added a notice as the game loaded to "Pay attention to your surroundings" to mitigate liability in situations where players caused themselves harm while playing. Though it wasn't all player created harm. As with most nascent systems there were kinks to work out, some destinations in game being in poorly lit alleyways, resulted in some players being literally lured into dangerous places where they'd be robbed by ne'er do wells (Miller, 2016).

Pokemon Go was a global phenomenon, with millions of players around the world loading up to catch Pokemon and to work within their teams towards different goals. It is in recent memory one of the most powerful statements about the impact games can have on our culture. It wasn't just that everyone couldn't stop talking about the game after it launched. For a brief moment in a month or so after the game launched, Pokemon Go changed the way we interact with strangers. Sharing smiles when you notice someone catching a similar Pokemon. Head nodding at fellow players hitting a gym. Despite the perception of some, that games, particularly mobile games, prevent people from interacting (Twenge, 2017), Pokemon Go created a culture of togetherness centered around a game millions of people were playing around the world.

How do you actually play Pokemon Go? There are a number of actions players make over the course of the game, that have increased in complexity and reward since the game launched in 2016. Since the game utilizes GPS in order to signal to players where Pokemon and Pokestops occupy the map, players navigate the world by literally walking around and exploring the real world. The core gameplay of

Pokemon Go, aside from “going” outside and exploring, is to catch Pokemon. To do so players will walk around until various Pokemon appear on their game map. By interacting with them by tapping on them players will jump into a scenario where they try to throw Pokeballs, the spheres that catch Pokemon, at their target. Players can supplement their catches with berries making them easier to catch. Once you have a Pokemon in your possession players can do multiple things with them, from transferring them to create more storage space, to placing them in gyms to fight other Pokemon trainers, powering them up so they become more formidable, trading them with other players, or even evolving them into a stronger version of themselves.

So what actually motivates players to continue engaging with Pokemon Go? While part of it certainly has to do with the reward mechanism players enjoy (Pluralsight, 2015) by hatching eggs and winning prizes for the distance they travel, there are also intentional design decisions made by Niantic that make Pokemon Go so popular, even after three years. The slogan “Gotta catch ‘em all” is certainly one form of incentive for players, the ever growing need to have as many varieties of Pokemon as possible, with over 500 Pokemon in the game as of September 2019. There is of course the Raids and Community Days, timed events to attract players to engage with others in the real world and face new bigger challenges. One of the most recent features is “Research” where players complete small micro goals that earn them rewards. Finally players earn bonuses for catching at least one Pokemon, and spinning one Pokestop a day for seven consecutive days, earning large rewards. Together these incentives have allowed Pokemon Go to remain a highly playable and easy to pick up mobile game that is still extremely popular to this day.

Pokemon Go, like Miitomo before it, is a Freemium game, a free to play game that on the whole has done an admirable job not limiting play behind paywalls. Pokemon uses the real world currency to purchase Pokecoins, the base exchange rate being 1 Pokecoin per Canadian cent. However the average price of items in the shop, items that can improve catch rates, hatch more eggs at a time, and expand player inventory is about 300 Pokecoins. As we explored in chapter 2, Pokemon Go uses a bit of Obfuscated Pricing, by having a relatively complex rate of exchange, where the more you spend on Pokecoins at once, the cheaper they are. However, Niantic has insured that their game does not suffer from the loot box controversy we outlined in the previous chapter. Pokemon Go has purchasable items, similar to loot boxes, where players can purchase a selection of special boxes of varying prices. However players can preview the content before committing to buying, entirely removing the predatory gambling practice that occurs so often in modern games.

No item is technically gated exclusively behind a paywall. However paying money outright will allow players to gather the following resources more efficiently: Items, stardust, Incubators for hatching eggs, lures. Each of these are items players can gain very slowly over time. Players can also gain dollars by

leaving Pokemon to defend a gym, earning money the longer the Pokemon stays there defending, though relying on this is very slow, as players can only gain a max of 50 Pokecoins a day.

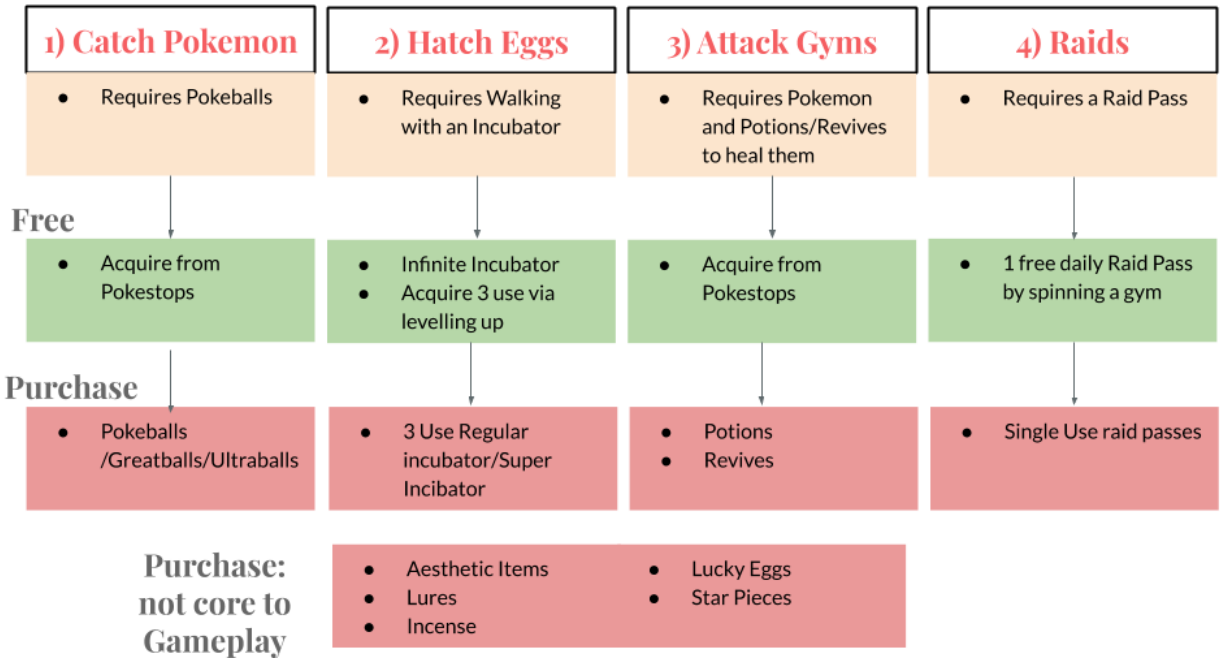


Figure 20

Niantic Inc, 2017

Pokemon Go has what might be one of the gentlest Freemium pay structures. The core mechanics of Pokemon Go are 1) Catching Pokemon, requiring Pokeballs and berries, 2)Hatching eggs, requiring walking set distances with an incubator, 3) Attacking Gyms, requiring Pokemon and potions to heal them afterwards, 4) Competing in Raids, requiring a raid pass to participate. With the exception of raids, every other mechanic can be achieved by the player walking to a pokestop and spinning it, which results in a random return of a mix of items, including pokeballs for catching, potions for healing pokemon, berries for aiding in catching Pokemon, and many more. This means that there are no paywalls barring players from engaging in the core fun of Pokemon Go. Instead, players are motivated to walk from location to location to garner as many tools on their goal to “Catch ‘em all”.

From Pokemon Go Nintendo learned that the IP related to their brand, as up until recently players could only play Pokemon games on Nintendo consoles, is strong enough to create a massive cultural movement. Pokemon Go managed to break records, garnering $207 million in its first month alone. It was reported in July 2019, that Pokemon Go has seen $2.6 billion in total revenue since it launched (Iqbal, 2019). It is easy to argue that the success of Pokemon Go has allowed Nintendo to be less risk averse in the mobile games space, investing more money and different IPs into mobile games. Above all things Pokemon Go is a triumph of Nintendo’s Blue Ocean strategy, managing to captivate millions of players

worldwide who had likely never previously played a Pokemon Go game in their life. Pokemon Go is unique in that it has managed to make so much money without being grossly predatory on players, the other mobile games crossing the $2 billion threshold being Clash of Clans, Clash of Kings, and Candy Crush, all of which are games that use extreme paywall tactics outlined in chapter 2. Further experimentation would be needed for Nintendo to have a strong grasp on how to continue operating in the mobile games market. And who better to do that, then the face of Nintendo himself?

Premium Mobile Games

Recall that Premium Mobile games refer to paid for up front mobile games. These are the games that players are unable to download until after they have paid for the game upfront. Because the average mobile game is free, these premium games tend to earn smaller user bases, who also strongly dislike in-app purchases, what with the whole upfront cost of the game and everything. However, if there was one IP in Nintendo's pocket that could have earned money for a paid mobile game, it had to be Mario. As the flagship IP owned by Nintendo Super Mario Run, similar to Miitomo was developed by Nintendo EPD, and then subsequently published by Nintendo onto smartphones. Launching in December 2016, Super Mario Run is so far Nintendo's only attempt at a premium mobile game and given the hype and excitement pre-launch and subsequent disappointment post-launch, it's not hard to see why.

Super Mario Run

The Mario franchise has sold over 500 million copies of games worldwide (Voskuil, 2014), making it the most successful franchises in video game history. The games includes everything from the core games like Super Mario Bros to the many different sports games Mario has tried, like Golf, Tennis, and even Soccer. Mario has to some degree starred in over 200 titles, resulting in the franchise being worth an estimated 10 billion dollars (Rear, 2018), with no sign from Nintendo to be slowing down anytime in the near future. Mobile games as we discussed in chapter 2 tend to fill a niche that the major AAA games industry does not. They tend to be small, easy to play games that are capable of being picked up and put down at a moment's notice. This fits in with mobile games as an auxiliary function of smart phones. Mobile games don't usually feature a compelling storyline that draws players into never want to put the game down. They are a quick, engaging and fun way for a player to kill some time —- the ideal pastime while waiting at the passport office or for the bus. Super Mario Run somehow manages to be like these mobile games, and yet not at all.

While Super Mario Run is short like most mobile games, and has an easy to use interface that won't leave players overwhelmed, it also suffers from persistent online connectivity which makes it hard to play the game without wifi. Super Mario Run has a free to play demo mode, where players can get a taste of the game before needing to pay for it. In an effort to situate their primary mascot differently from the often

predatory practices of mobile games, Super Mario Run features one transaction at a price point of $13.99 CAD. The game's quality is unquestionable, the graphics are superb and it definitely feels like it has the Mario franchises' gold standard of polish. On the strength of their beautiful and vibrant graphics Super Mario Run stands above and apart from all other mobile games further emphasizing how different it is from the rest of mobile games.

What makes a Mario game? Is it the eponymous hero standing around in his red hat and moustache? Or is it the acrobatic leaping around a level? Is it the driving need to save princesses from castles? Or is it some combination of many factors that have seen players invested in Mario games for almost 40 years? Ever since he broke out onto the scene as Jumpman in 1981, each main entrance into to Mario franchise has always emphasized the importance of interacting with the environment through jumping. No matter the interface, Mario has always been about navigating space through his athletic leaps. Mario games also feature a great many power-ups, via items found in the game space that can modify how players control Mario in the space. At his most basic Mario can run, jump, grab, and land on top of enemies. Throwing in power ups allow players to manipulate Mario into throwing fireballs, becoming a nigh indestructible giant, and even fly.

What does it mean for Nintendo to use the very face of their company, their most powerful and successful IP in their mobile games strategy? From an external perspective it signals to us that Nintendo is willing to go all in on their mobile games market gamble. By associating the very face of Nintendo's brand identity with their mobile games market strategy, it signals to us that Nintendo is aiming mobile games a part of their identity going forward. There is of course a level of irony to the fact that Super Mario Run is without a doubt Nintendo's greatest commercial failure in mobile, in almost three years having only made about $60 million (Taylor, 2019). This is especially painful, given that the demo mode of SMR has been downloaded 300 million times globally. Meaning that Super Mario Run only had about a 1.5% purchase rate of their total downloads.

That the face of Nintendo is their least successful mobile game to date is a bit ironic, given that Mario is frequently used as one of the primary sellers of their consoles. By pricing the game too high Nintendo learned a valuable, if problematic, lesson: that the mobile games industry is less interested in premium apps, and want to be able to opt in to purchasing microtransactions in otherwise free games. We can see the influence Super Mario Run's lack of success had on Nintendo's mobile game strategy, as every game since then has been free, featuring in-app microtransactions.

Free Games Models

Super Mario Run taught Nintendo a humbling lesson, that in spite of the recognizability of Mario, charging premium prices automatically reduced the player base on mobile. By charging money up front, especially given Super Mario Run's relatively hefty price tag, Nintendo alienated people from playing the game. They did however witness a large number of people download the free first three levels, signaling that the market is interested in free experiences, with the opportunity for much smaller transactions in game. The next two games Nintendo would release on mobile pursued this free model: Fire Emblem Heroes and Animal Crossing Pocket Camp.

These games would take into account the general market behaviour in mobile games and try to model themselves in the image of the average mobile game. Instead of asserting themselves as apart from the average Mobile Game, Nintendo looked at the financial successes Freemium offered and realized they could do that too. And if the goal was to expand their brand recognition using mobile games, should the goal not be to make sure as many people as possible download their games? Freemium has the added perks of being a far more profitable model overall in the mobile games industry, if Pokemon Go made as much money as it did, perhaps their other IP could fare better than Mario in this setting? Without a doubt both Fire Emblem and Animal Crossing ended up being more profitable for Nintendo in the end. The question of whether or not they've managed to maintain a family friendly image in doing so remains to be seen.

Fire Emblem Heroes

Without a doubt the most financially successful mobile game Nintendo has released since 2016 is Fire Emblem Heroes. Fire Emblem is an example of the close ties Nintendo has with out of house development teams for games. The Fire Emblem series as a whole has been developed by Intelligent Systems, a Japanese based games company, who have given Nintendo exclusive publishing rights on the games they make. Similarly Fire Emblem Heroes was also made by Intelligent Systems, but is co-owned and was published by Nintendo. Fire Emblem has traditionally been viewed as a less successful IP in the west, frequently suffering limited releases. And yet the series is known to have a passionate and ardent fanbase (Hilliard, 2019), a group of players who would be the perfect base to grow a new Freemium game off of. Leveraging the popularity of different generations of characters from different Fire Emblem games was a perfect recipe for profitability. Players were undoubtedly going to spend as much as they needed to unlock their favorite characters.

Fire Emblem and it's notable heroes, Marth, Lyn, or Ike are far from household names in the west, unlike Mario, Pikachu, or even a Wii player's familiarity with the concept of Mii's as avatars. So how exactly has

Fire Emblem Heroes become the most successful Nintendo Mobile game to date? By leveraging the nostalgia of the medium sized, but deeply passionate fan base who have been following Fire Emblem games for decades, calling for the games to be ported into English, and ensuring dedicated sales to any Fire Emblem games that makes its way west. While classic titles like Radiant Dawn (2007) and Blazing Blade (2003) are often cited as the “best” Fire Emblem games (Gurwin, 2019), the series has seen a resurgence in popularity more recently with games like Awakening (2013), Fates (2015), and the most recent Three Houses (2019) which were all massive hits on the 3DS and Switch. (Tran, 2019). Fire Emblem also has a long history of appearing on handheld consoles, with games appearing in the libraries of the Gameboy, Gameboy Advance, and the 3DS. The leap to smart phones was not a long one for the series. Drawing on the full 13 game library of Fire Emblem games, Fire Emblem Heroes has 379 characters in it, guaranteeing that almost every player will be able to find their favorite character to fight with, so long as they play long enough, or are willing to pay for the privilege.

Fire Emblem Heroes (FE:H) sees the player controlling armies of their favorite characters in a streamlined version of the popular strategy gameplay Fire Emblem is known for. FE:H has been and continues to be successful for a few core reasons, including a simple and easy to understand interface, a simple rock paper scissors battle mechanic that is easy to deduce from colour choices in the UI, and of course the presence of any player favorite heroes from previous entries into the series. Best of all, the game is free to play, allowing anyone with a smartphone to play. However in order to make as much money as it has in the two years since its release Nintendo has opted to use a mobile market strategy that we have previously discussed as problematic: Freemium and Loot Boxes.

As we discussed in the previous chapter, mobile games are never just free. Typically they utilize some sort of gameplay strategy that is strangled by time or frequency, that players can pay to play past. FE:H employs Obfuscated Pricing with Time restrictions, limiting the numbers of battles players can undergo in a set amount of time, and features Loot Boxes that players can open once a day to unlock new characters. The currency used in game can accumulate slowly over time, as players win battles, or the player can opt to exchange real world money for in game currency. These boxes contain new heroes for players to use in their battles, and also to delight in the nostalgia of seeing an old favorite character. If a player desperately wants Chrom from Fire Emblem Awakening on their team, or perhaps Lyn from Fire Emblem: Blazing Blade, they’ll need to roll a dice. Likely, and often, it is just more copies of characters or items the player already has plenty of at their disposal. Famously in 2017 a player spent $1,000 looking to unlock a single character (Fahey, 2017), and though Fahey managed to unlock every single character but the one he sought, it is horrific that the game relies on random chance in the same way a casino seeks to prey on those with gambling addictions. This act is made even worse by leveraging gameplay and nostalgia to do so.

As of February 2019, Fire Emblem Heroes has made about $500 million globally since launch in 2017 (Nelson, 2019), putting it well ahead of Super Mario Run, despite the much smaller initial player base size between the two. These figures also don't account for the stream of updates that have occurred over the course of 2019, including the launch of Fire Emblem: Three Houses, which saw an uptick in player base size in Heroes after the Three Houses success (Moyse, 2019). The Freemium model worked exceptionally well for Fire Emblem Heroes, however this game is designed to target addictive personalities, and has managed to accumulate quite a bit of its money from whales. By restricting the amount people can play on a daily basis, and lock various stat and item increases behind paywalls, Nintendo is literally signalling that in order to enjoy their game to the fullest extent players need to fork over some money. In addition, the daily bonuses act as an incentive to keep players coming back day by day, and the low probability chance of unlocking a beloved character means that FE:H is rife for addictive personalities. It's entirely possible to make money off of mobile games, especially when a company like Nintendo has such a large built in fanbase, but to make a lot of money, you might need to sell your soul a little bit. However, not all Nintendo Freemium games are created equally, Animal Crossing Pocket Camp, despite using a similar financial model has made about 1/7th of what Fire Emblem did.

Animal Crossing Pocket Camp

Animal Crossing is a low stakes, unstressful, slice of life style game where players can slowly and methodically look after their small town. Animal Crossing Pocket Camp was jointly developed by both NDCube, a Nintendo subsidiary, and Nintendo EPD, once again seeing Nintendo developing and publishing their own games on mobile platforms. Animal Crossing is a Nintendo IP that they have sole rights to. Animal Crossing is also an IP that is a perfect representation of Nintendo's Blue Ocean strategy. There is no combat, no points, no competition of any kind. Instead players move into a village and are tasked with making friends with the locals, all cute animal people, designing their own house, donating to the local museum, and generally being a positive influence on their community. The games are popular, consistently selling well across console generations, the most recent entry into the franchise Animal Crossing New Leaf selling 12 million units on the 3DS (Valentine, 2018). With it's easy learning curve and simple mechanics it's a pleasant game that anyone can pick up. As part of Nintendo's mobile game strategy it makes perfect sense, the casual pick up and play mechanics that Animal Crossing is known for, make a great environment for players to engage with casually on their own terms.

In Animal Crossing: Pocket Camp, it's up to the player to build a fun campsite for their anthropomorphic animal friends to enjoy. The game featured all kinds of special events featuring popular animals from the core Animal Crossing games. Players build up a cozy camp life with friends and their favorite animal people. The setting is such that players arrive at an empty campsite and are instructed to run it, success being measured by the amount of visits the camp sees. The more spectacular the camp, the more visits it will see. Far more likely is that players will design mish mash camps with various large and expensive

elements in them to appeal to a wider audience. Players will craft their own furniture, amenities and several “fun” items to attract guests. Players can also visit other locations to gather the resources they need to make their camp a success. As Animal Crossing at it’s core is a social game, where players are rewarded for interacting with the characters in the world, it makes perfect sense that the mobile game would feature mechanics centered around catering to the needs of players animal friends and visitors.

AC:PC is an interesting restructuring of the gameplay systems featured in most Animal Crossing games. While game play is generally slow and sleepy, Animal Crossing has the player feeling invested in the maintenance of their towns and their villagers. However, with Pocket Camp we lose much of investment in the space. The game centers around a core concept: trying to woo fickle villagers to visit your campsite display, requiring the player to wait for painfully long periods of time for visitors and resources to accumulate. Pocket Camp takes what is already a ploddingly charming game, and slows it down with near untenable cooldowns that will either force players away, or force them to pay microtransactions to circumvent them. For every action taken in-game the player on average will need to wait anywhere from five to ten minutes in order to take another action, or they can pay to immediately take another action. This has led to much player frustration (Plunkett, 2017)

The resources needed to build any item accumulate slowly over time and as the player visits other campsites. However, on average most items characters want you to build in order to visit are large and expensive, requiring many resources. To wait for resources and money to accumulate naturally over the course of play is to wait about one day to make a chair, about three days to make a table, and if you want to make a ferris wheel be prepared to wait a minimum of two weeks to gather the resources necessary for it (Daniels, 2017). To supplement this waiting, players can exchange money in another Obfuscated Pricing structure where they change it into Pocket Camp Dollars, also known as bells. There is little to do in Pocket Camp aside from waiting for resources or paying money directly to make the dollhouse style camp the player is working on. Thus with gameplay being so limited it is unsurprising that Pocket Camp has only really made about $70 million in the two years since it’s launch (Fogel, 2019).

Dragalia Lost

Draglia Lost, released in 2018, is unique in the Nintendo Mobile Game line up as the only new and exclusive to mobile IP that Nintendo has published for mobile games. Developed by Cygames, a relatively well known mobile game developer, Draglia Lost is an Action RPG that has players taking the role of a warrior capable of turning into and wielding the power of a powerful magical dragon. As a uniquely new IP, Draglia Lost does not bring with it much of the baggage of expectations from fans as to how the game is meant to be played or what it ought to feel like. Where Super Mario Run notably lacked

much of the charm and dynamics so popular and familiar with other Mario games, Draglia Lost isn't made to suffer the same burden of legacy.

The game itself is simple enough. Players control their little fantasy avatar and create teams of colorful characters obtained either through gameplay or by spending in-game currency in a randomized gacha machine-style store. These parties are used to take on a series of small action RPG levels featuring very simple game mechanics. Players can swipe to move, tap to attack, and press buttons to activate skills or temporarily transform into a giant beast. There's also a lot of inventory and character management to be done, different characters can be upgraded, as can weapons, dragon forms and skills can all be upgraded. Notably, there is a somewhat complex rock paper scissors mechanic, with players needing to maximize elemental type effectiveness before battles, water is strong against fire, and so on. The game follows a simple core gameplay loop featuring fighting, gaining resources, and upgrading with your hard fought resourcesresources. Similar to Fire Emblem Heroes, players can roll a random number generator to unlock new adventurers for their party, with varying "rarity" ranges. One of the key in game motivations for players is to unlock new characters, similar to Fire Emblem, both having that "gotta catch 'em all" player incentive.

Interestingly Draglia Lost is exceedingly generous with the dispensation of its currency Wyrmite. You earn it from nearly everything in game, from fighting battles, to completing daily tasks, to simply reading the stories of the various characters. This is a common practice in Japanese mobile games, sacrificing some monetization to make spending money in game habitual for the player. This allows the game to trickle small amounts of currency to incentivize player behaviour towards spending. Traditionally, most of these reward mechanisms will slowly bleed dry as the players venture deeper into the game, and Dragalia Lost is no different – many of these rewards are for first time completion only. Add to that the fact that each gacha is diminishing returns as player power demands grow in the game, needing more and more more Wyrmite to make a power difference, and it becomes clear that this generosity is deceiving.

Dragalia is without a doubt the most gacha/freemium heavy game in Nintendo's lineup, due in part to the legacy of Cygames mobile games success. This model proved profitable for them in the end, however it also triggered the most vocal backlash against Nintendo in the west. This resulted in Nintendo taking a firm stance that they would change away from this model, and move towards more end user friendly economic models.

Future Titles

More recently Nintendo launched three titles, and has stated they have plans to launch more games into 2020 and beyond. Dr. Mario World (2019) operates under a strict Freemium model, being a Candy

Crush, match 3 puzzle clone. However more interesting is the new experiment Nintendo is trying with subscription based models in Mario Kart Tour (2019).

Mario Kart Tour, launching in the fall of 2019 allows players to download the game for free, as has become the standard across Nintendo mobile games. It features many of the same loot box structures we discussed for Fire Emblem Heroes, as well as the ability to race other players online and win prizes in the form of in game currency. However it has an interesting additional feature: for a subscription fee of $4.99 players get access to high difficulty racing, as well as daily bonuses and gifts, and gameplay challenges (Goslin, 2019) . This is an exciting model for Nintendo to explore, but recall from chapter 2, that Apple Arcade launched at a similar time, and has over 50 games available for the same price. Now Nintendo has the strength of their IP and the renown of making great games under their belt, however, even the most uninformed consumer can see how skewed this deal is. Nintendo still has a lot to learn about the mobile games industry, and what exactly the market will bear. Going forward they still have so much of their IP catalogue to test out in the platform, having announced a Legend of Zelda title for mobile sometime in the future.

Conclusion

Nintendo has a variety of experiences and successes with their mobile games. From testing the waters with Miitomo with limited success, or getting to witness the mass global appeal of Pokemon Go, to testing out their premier IP with the Super Mario Franchise and watching their only premium app attempt fall flat due to the high price point, to the new status quo for Nintendo with their Freemium games, for Fire Emblem Heroes, the greatest money maker so far, and the relatively poor performance of Animal Crossing Pocket Camp, despite its user friendly appeal. Going forward we've seen Nintendo engage with the mobile games market standard practice of copying models that work for others, with Dr. Mario World being identical to other match 3 puzzle games. But most interesting is Nintendo's new experiment with subscription models for Mario Kart Tour. Getting to see how that will shape Nintendo's behaviour in the market will be interesting, especially given Apple Arcades similar pricing for much more content. It is apparent however that Nintendo is shifting to more Freemium models, despite whatever complications that might have for their brand identity as family friendly.

Are Freemium and Gacha games inherently predatory? Is it possible to make a free game, make money off of it, and not capitalize on people's worst addictive behaviours? Though we have discussed all the ways in which Nintendo has engaged with consumers problematically in their mobile markets, not all hope is lost. After three years in the mobile games market Nintendo has acknowledged that their original intent, of growing their brand recognition, and accessing consumers who can't afford their consoles, potentially missed the mark, especially with what they have always said was a firm stance against gacha games. In

a statement in early 2019 Nintendo discussed that most of their mobile games have followed the common predatory tactics of the Freemium models, limiting play and engagement behind paywalls (Nintendo, 2019). This is especially evident in Fire Emblem Heroes. They have made a commitment to scale back the frequency of microtransactions within their mobile games, instead moving towards more Super Mario Run like models, where players can pay for a premium mobile game once, and never be bothered to keep paying to play ever again. Or, perhaps Mario Kart Tour indicates movement towards subscription based models. It is heartening to see that Nintendo says they'll stand firm to their core beliefs.

Conclusion

We now have a clear picture of how Nintendo chose to enter into the mobile market, and our findings can help us determine the why. In this new digital era of constant connection, Netflix's statement that the goal in digital media is consumer screen time, rather than competing with direct market competitors rings truer and truer (Webb, 2019). For decades Nintendo has competed directly with other game industry giants, the concept of console wars has been a part of our vernacular since the 90s when Nintendo competed against Sega and Sony for market share in the games industry (Harris, 2014). In the early 2000s that morphed into Nintendo/Sony/Xbox competing with each other, and now we have Nintendo taking a globalist perspective on usage. To stay competitive in the modern era is to expand your user base, but when your signature is coupling the production of hardware and software, it becomes more difficult to scale your business. Especially when financial inequalities grow increasingly worse and fewer people are able or willing to invest in a mono-use console that only plays games. Making mobile games is a logical next step in expanding your audience size, for the chance to access a user base in the billions. Especially as Nintendo's behaviour has indicated that they will stop producing handheld consoles altogether, allowing their handheld game development to move towards even smaller mobile games (Huang, 2019)

Nintendo has seen recent strain in the market, suffering poor hardware and software sales from 2014-2017, however, since 2018 Nintendo's financial successes have begun to see an increase once more. However take one look at Nintendo's annual revenue in Figure 3 below, since 2016 when they entered into the mobile market we do see a gradual increase in sales. Nintendo has expanded their mobile strategy from just a premium title and their first attempt at a Freemium game. With six mobile games live now, Nintendo's initial experiment has proven successful enough to continue, expanding their IP in the domain in the years to come.

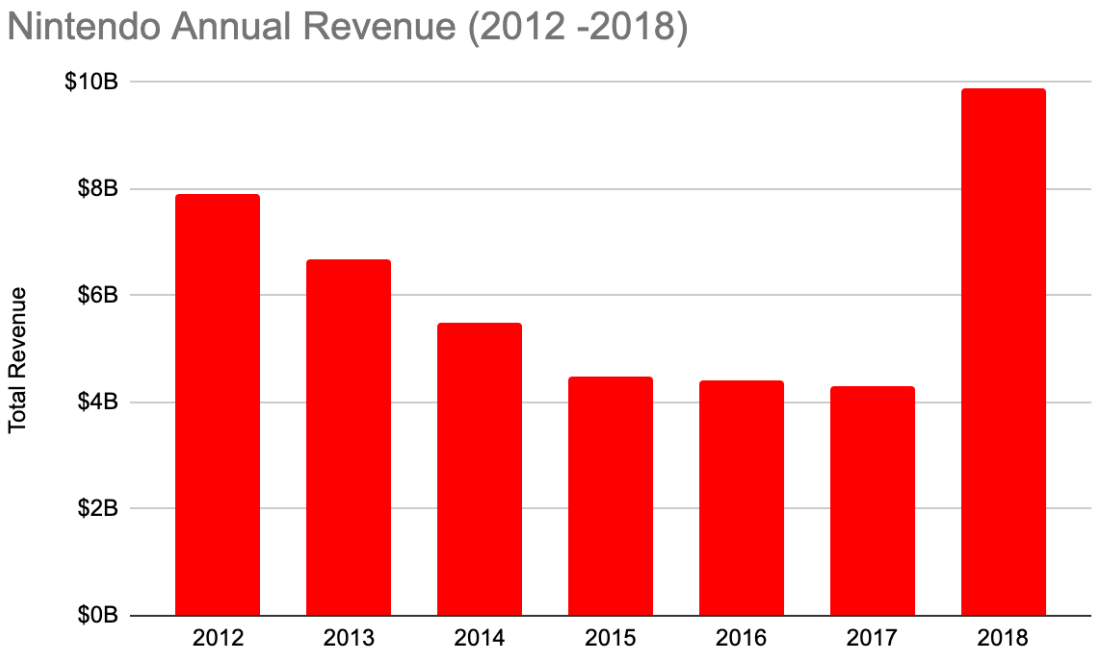


Figure 3 from Introduction

And yet, even at its most successful, Nintendo's earnings are overshadowed by the success of the mobile games industry as a whole, which has witnessed and earned nearly exponential returns on investment. Perhaps this is not a fair comparison, Nintendo has made many games over the years, but their games catalogue is only a fraction of the hundreds of thousands of games available to mobile gamers. This does help paint a really clear picture of why Nintendo would want to enter into the globe spanning mobile games market, where 1 in 3 people on earth is a potential user. The nearly $10 billion in revenue Nintendo had made in 2018 is a very impressive number until you compare it against the astronomical numbers of the mobile games industry. Pokemon Go alone has made $2.45 billion and Supercell, makers of Clash of Clans, made $ 3 billion in 2018 alone, off of one game, compared to Nintendo's massive catalogue, consoles, online store, merchandise, licensing, and more. (Nelson, 2019). At their best year since 2009, Nintendo, with all it's storied history and iconic games and branding, only makes up for 1/7th of the total revenue mobile games made in 2018. No top earner exclusively in the mobile games market, King, Rovio or Supercell have ever made more money than Nintendo in a single year, but these mobile game makers are not releasing consoles periodically to market. Instead it is looking at the mobile market as a whole, with the hundreds of small companies making millions of dollars that add up to such a profitable industry. And unlike Nintendo until recently the bulk of that money in mobile games was made off the backs of free mobile games.

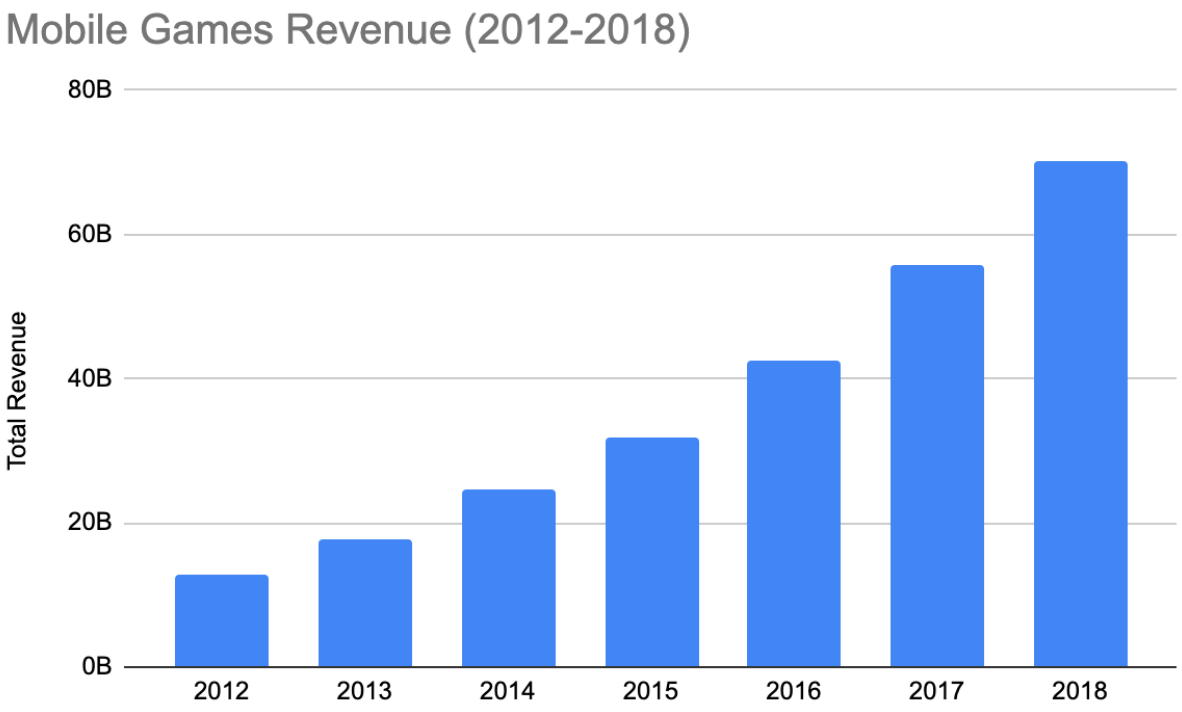


Figure 21

(https://www.statista.com/statistics/263437/global-smartphone-sales-to-end-users-since-2007/)

Once again the matter of scale is at the forefront in analyzing Nintendo's behaviour in the market. Nintendo is a successful games company, they make money bringing joy to people's homes in the shape of a plastic and metal game console, with it's accessible and typically family friendly software. And yet, what is Nintendo's success in the ever growing market share of the mobile games market. When Satoru Iwata firmly announced that Nintendo would never make mobile games, that it goes against what games mean and their purpose to Nintendo, in 2011 the mobile games industry only made up 17% of the games industry market share. Nintendo was obviously more concerned with the performance of their handheld consoles and how Microsoft and Sony were behaving in the market, rather than paying attention to the exponential trend mobile games were on. By 2019, mobile games make up 51% of all revenue generated in the games industry (Statista, 2019). Money talks, and it obviously told Nintendo that in order to remain relevant, especially in their down years between 2011-2015, they needed to diversify. And what better way to do that than by investing their ever popular IP into cheaper and smaller games?

As we explored in Chapter 2 mobile game revenue is mostly derived from microtransactions in free games. The goal is to hook the player into simple, easy to pick up games, that start out friendly and easy, and then eventually make a level or interaction just frustratingly out of reach. As discussed, many freemium games depend on predatory practices, including baiting players into overspending. These

practices are particularly harmful to vulnerable populations like children, young adults, and addicts —- termed "whales" within the industry —- which can have extreme negative effects on players emotional and financial well being. When a company like Nintendo, which has branded itself as the family game console, engages in behaviours that alienate and potentially harms their valued customers, it informs us that they don't really care about their consumers. Worse yet, it can cause users to lose faith in the efficacy of Nintendo's family friendly brand. Is Nintendo really a safe gaming company if they're willing to try and extort money out of your kids, one microtransaction at a time? Any sane person would say absolutely not, which is luckily what Nintendo seemed recognize in 2019, declaring they would move out of the freemium model, and explore other options.

Nintendo has explored different economic models to varying success. We've seen premium paid experiences for Super Mario Run, Freemium for Fire Emblem Heroes and Animal Crossing Pocket Camp, and a new subscription model coupled with Freemium for Mario Kart Tour. By and large Fire Emblem has been the greatest success for Nintendo, with Dragalia Lost, a new IP for Nintendo released only on mobile coming in second. Both of these games lean hard into the worst of Freemium culture. Bonuses and collectibility being key to success while playing, and only limiting random loot box like drops daily, players feel the need to pay out for better odds and more tries at these gacha games built into many other mobile games.

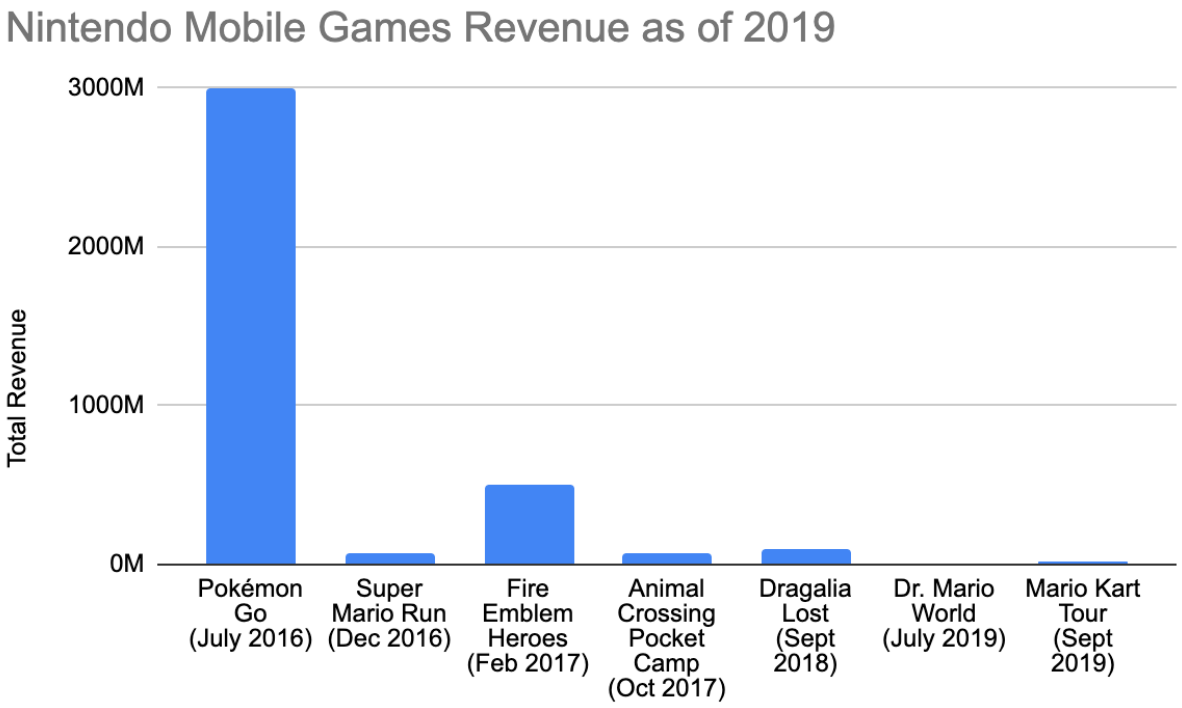


Figure 22

(https://sensortower.com/blog/nintendo-mobile-revenue-2018)

And for clarity, *figure 23* demonstrates what this graph looks like when we remove the worldwide mass success of Pokémon Go.

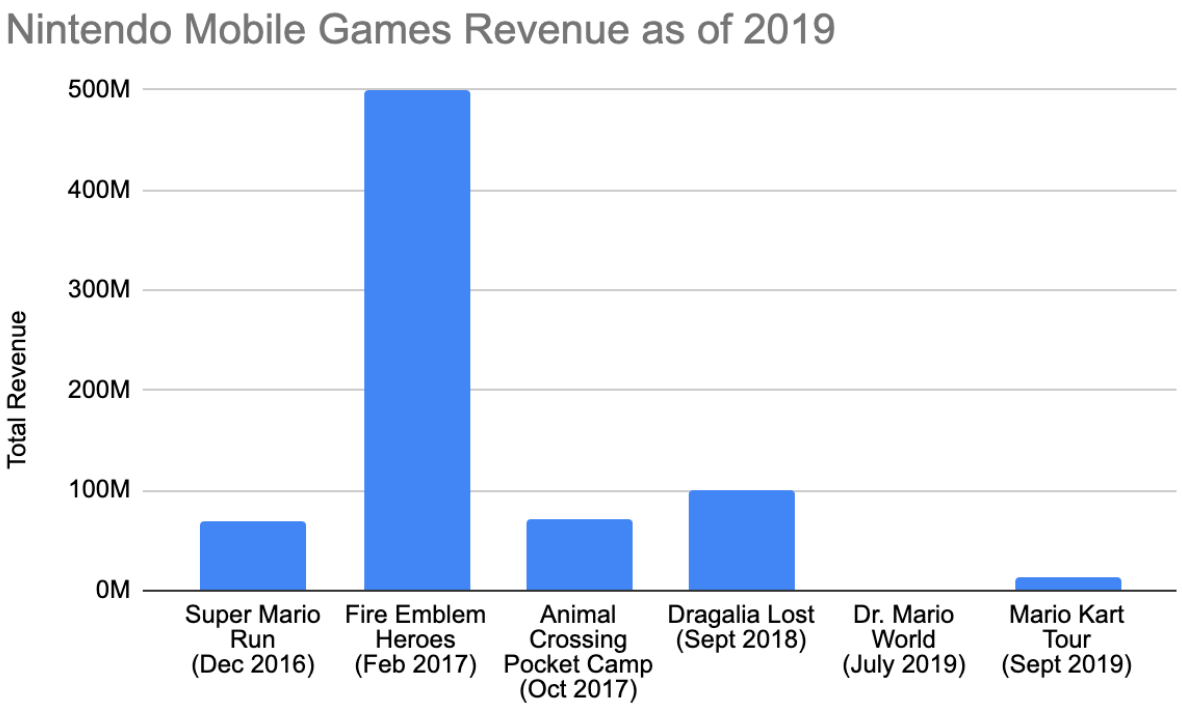


Figure 23

(https://sensortower.com/blog/nintendo-mobile-revenue-2018)

However, things might be changing. Super Mario Run's failure had Nintendo reevaluating their behaviour in the market, transitioning to the much more profitable Freemium/gacha model for the rest of the mobile games Nintendo has dropped. Since then though, perhaps finally remembering the "family friendly" part of their brand identity, Nintendo announced in March of 2019 that they would be scaling back microtransactions and loot drops in their upcoming mobile games (Fogel, 2019). While this wasn't necessarily true for Dr. Mario World, which would have been late in development by the time the announcement was made, Mario Kart Tour proposed something different altogether: a free game with a built in, optional subscription mode, that would unlock increases to loot drops, and allow players to access harder difficulty races. Priced at $4.99, this feels like a step in the right direction for Nintendo. However it is important to note that despite Mario Kart Tour still launched with plenty of Freemium/gacha features, suffering from the curse of random drops to keep players hooked. So while Nintendo might be learning gradually from their time in the mobile games industry, they still have a way to go, reconciling their family friendly brand identity with a successful mobile games maker.

Coupled with the launch of Apple Arcade, priced at the same $4.99 as Mario Kart Tour's subscription fee, this subscription model by Nintendo feels a bit tone deaf. Apple Arcade offers access to 50+ games, with an ever growing and shifting library, whereas Mario Kart Tour will allow you to race just a little bit faster for the same price. This shift does perhaps signal how Nintendo could be more flexible going into the future of their mobile games development. With announced title for their Legend of Zelda IP, and Donkey Kong, Nintendo has the opportunity to do something that no one in the mobile games industry is capable of: leveraging nearly four decades of market success and popular IP. Nintendo is in the unique position of being able to create their own subscription service for their mobile games. Perhaps moving their current mobile game library behind a subscription based paywall. Or, better yet, leveraging the success that hundreds of classic games have had on mobile and allowing people to pay for the pleasure of reliving old classics from the NES, SNES, Gameboy, and N64 era of games. Nintendo had already seen massive success from their "classic" consoles, with its super hypable limited releases. And after shutting down piracy sites hosting their games, the market is in dire need of more old school Nintendo games. Why not leverage consumer nostalgia for their favorite games? It's the profitable thing to do.

Glossary of Terms

Console Games

A form of interactive multimedia entertainment generated by a video game console, whose primary purpose is to play digital games on. Typically console games are interfaced with using a controller or some other form of external input.

First Party

Refers to intellectual property rights holding relative to games. First party is denoted as a type of game that is owned by the console maker. Nintendo is well known for making many first party games for their in house designed consoles.

Freemium

A portmanteau of “free” and “premium”, it is a pricing strategy denoted for being free upfront but has internal transactions to access additional features or services. When used in games it can often be used as a gating mechanism to encourage players to pay to play.

Gacha

The japanese name for “loot box” style games, which induces players to spend more money in game for the chance at random rewards from their “loot box”.

Handheld Games

Games denoted as being on portable game consoles that come with a built in screen to play directly on the console itself. The Nintendo Gameboy or Sony PSP are examples.

Mobile Games

A game that is played on a mobile phone. From Candy Crush to Snake, to Solitaire.

Mobile Games Market

Refers to the economic system and flow of money around mobile games, that rarely intersects with the traditional console based games market.

Third Party

Refers to software IP that is produced for a game console that the game designer does not own.

Video Games Market

Refers to the digital games market as a whole, including console sales, software sales, mobile games, etc.

Games Mentioned

Animal Crossing Pocket Camp, Nintendo (2017)
Assassin's Creed, Ubisoft (2007)
Bravely Default, Square Enix (2012)
Candy Crush Saga, King (2012)
Celeste, Matt Makes Games (2018)
Donkey Kong, Nintendo (1981)
Doom, id Software (1993)
Draglia Lost, Cygames, Nintendo (2018)
EVR Race, Nintendo (1975)
Fire Emblem Heroes, Nintendo (2017)
Legend of Zelda: Breath of the Wild, Nintendo (2017)
Mario Kart 8, Nintendo (2014)
Mario & Sonic Olympic Games, Nintendo (2007)
Mario + Rabbids Kingdom Battle, Nintendo (2017)
Mario Kart 7, Nintendo (2011)
Mass Effect 3, Electronic Arts (2012)
Metroid, Nintendo (1986)
Miitomo, Nintendo (2016)
Mortal Kombat, Midway Games (1992)
Nintendogs, Nintendo (2005)
Pokemon: Sun & Moon, Nintendo & The Pokemon Company (2016)
Pokemon: X and Y, , Nintendo & The Pokemon Company(2012)
Radar Scope, Nintendo (1975)
Scribblenauts, Warner Bros Interactive Entertainment(2009)
Splatoon, Nintendo (2015)
Super Mario 64, Nintendo (1996)
Super Mario Bros, Nintendo (1985)
Super Mario Galaxy, Nintendo (2007)
Super Mario Maker, Nintendo (2015)
Super Mario Run, Nintendo (2016)
Super Mario World, Nintendo (1991)
Stardew Valley, Chucklefish & ConcernedApe (2016)
Tetris, Nintendo (1984)
The Witcher 3, CD Prokjekt Red (2014)
Wii Sports, Nintendo (2006)

XCOM 2, 2K Games (2016)

Bibliography

(2008). Game On!: inside the video game industry. New York, N.Y.: Films Media Group.
Aarseth, E. "Playing Research: Methodological approaches to game analysis." Proceedings of the Digital Arts and Culture Conference. 2003. Web.

Abent, E. (2019, March 6). Nintendo doesn't want players spending too much on its mobile games. Retrieved from https://www.slashgear.com/nintendo-doesnt-want-players-spending-too-much-on-its-mobile-games-06568906/.

Allen, F. V. (2017, March 11). These are the best-selling Nintendo consoles and games of all time. Retrieved from https://www.cnet.com/pictures/these-are-the-best-selling-nintendo-consoles-and-games-of-all-time/

Archak, N., Ghose, A., & Ipeirotis, P.G. (2007). Show me the money!: Deriving the pricing power of product features by mining consumer reviews. In Proceedings of the 13th ACM SIGKDD International Con- ference on Knowledge Discovery and Data Mining (pp. 56–65). New York: ACM Press.

Baker, J. (2019, August 26). Nintendo Changes Mobile Strategy With Announcement of 'Dragalia Lost'. Retrieved from https://goombastomp.com/nintendo-changes-mobile-strategy-announcement-dragalia-lost/.

Balakrishnan, J., & Griffiths, M. D. (2018). Perceived Addictiveness of Smartphone Games: A Content Analysis of Game Reviews by Players. International Journal of Mental Health and Addiction, 17(4), 922–934. doi: 10.1007/s11469-018-9897-5

Bartko, K., & Mertz, E. (2016, August 11). 'That is ridiculous': Edmonton resident frustrated by Pokemon Go traffic. Retrieved from https://globalnews.ca/news/2831696/that-is-ridiculous-edmonton-resident-frustrated-by-pokemon-go-traffic/.

Batchelor, J. (2018, March 27). Nintendo's advice for indies trying to get games on Switch. Retrieved from https://www.gamesindustry.biz/articles/2018-03-27-nintendos-advice-for-indies-trying-to-get-games-on-switch

Beck, K. (2017, December 4). 'Animal Crossing: Pocket Camp' was originally supposed to be a town building sim. Retrieved from http://mashable.com/2017/12/04/animal-crossing-town-builder/#jjJhRfUhFPqH.

Bell, M., Chalmers, M., Barkhuus, L., Hall, M., Sherwood, S., Tennent, P., … Benford, S. (2006). Interweaving mobile games with everyday life. Proceedings of the SIGCHI Conference on Human Factors in Computing Systems - CHI 06. doi: 10.1145/1124772.1124835

Biggin, C. (2018, July 2). 2018 Gamer Segmentation Syndicated Report. Retrieved from https://www.eedar.com/eedar-blog/introducing-the-2018-player-segmentation-syndicated-report.

Bogost, I. (2007). Persuasive games: The expressive power of videogames. Cambridge, MA: MIT Press.

Bogost, Ian. "The rhetoric of video games." The ecology of games: Connecting youth, games, and learning (2008): 117140. Web.

Bratuskins, M. (2018, March 27). Mobile Game Ad Struggle is Real, but There's a Solution. Retrieved from https://medium.com/monetizr/mobile-game-ad-struggle-is-real-but-theres-a-solution-fc844eb0cbf5.

Brown, M. (2015, March 16). Super Mario 3D World’s 4 Step Level Design. Retrieved from https://youtu.be/dBmIkEvEBtA.

Brown, S. (2019, October 7). Apple Arcade: All the games you can play on your iPhone, iPad and more. Retrieved from https://www.cnet.com/news/apple-arcade-updated-the-full-list-of-games-for-iphone-and-ipad-ios-13-play/.

Buckley, S. (2018, January 6). Nintendo's Miiverse is dead. Long live the Miiverse archive. Retrieved from https://www.cnet.com/news/nintendo-miiverse-archive-is-the-best/.

Bugsplat (2018) What was the Great Video Game Crash of 1983?. Retrieved from https://www.bugsplat.com/articles/video-games/great-video-game-crash-1983

Byford, S. (2013, June 12). A link to the past: why Nintendo won't make games for smartphones. Retrieved from https://www.theverge.com/2013/6/12/4422020/why-nintendo-wont-make-smartphone-games.

Byford, S. (2013, December 18). Why the Wii U's failure won't change Nintendo. Retrieved from https://www.theverge.com/2013/12/18/5223538/why-the-wii-u-failure-wont-change-nintendo

Byford, S. (2018, January 25). Nintendo is shutting down Miitomo. Retrieved from https://www.theverge.com/2018/1/24/16930822/nintendo-miitomo-closing-down-date.

Campbell, C. (2018, August 27). What kind of gamer are you? New report looks into the habits of US gaming types. Retrieved from https://www.polygon.com/2018/8/27/17671972/gamer-types-habits-demographic-research-eeda.

Campbell, C. (2018, November 29). FTC loot box investigation: What happens next? Retrieved from https://www.polygon.com/2018/11/29/18118164/ftc-loot-box-investigation-legal-analysis.

Canpolat, C. G. (2016). Strategic Analysis of Nintendo. Retrieved from http://www.academia.edu/22666999/Strategic_Analysis_of_Nintendo

Chaplin, H., & Ruby, A. (2006). Smartbomb: The quest for art, entertainment, and big bucks in the videogame revolution. Chapel Hill, NC: Algonquin Books of Chapel Hill.

Christensen, C. M. (2005). The innovators dilemma: The revolutionary book that will change the way you do business. New York: HarperCollins.

Coldewey, D. (2017, May 15). Nintendo is planning a Legend of Zelda mobile game. Retrieved from https://techcrunch.com/2017/05/15/nintendo-is-planning-a-legend-of-zelda-mobile-game/.

D'Anastasio, C. (2018, August 14). Inside The Culture Of Sexism At Riot Games. Retrieved from https://kotaku.com/inside-the-culture-of-sexism-at-riot-games-1828165483.

Daniels, S. (2017, December 11). Animal Crossing: Pocket Camp Finds Virtue in Patience. Retrieved from https://www.pastemagazine.com/articles/2017/12/animal-crossing-pocket-camp-finds-virtue-in-patien.html.

Detweiler, C. (2010). Halos and avatars: Playing video games with God. Louisville, KY: Westminster John Knox Press.

Donovan, T (2010). Replay,: The History of Video Games. London: Yellow Ant Media.

Draganov, D. D. (2014). Freemium Mobile Games: Design & Monetization. CreateSpace Independent Publishing Platform.

Duchenaut, N. (2014). High Value Monetizers – Debunking Assumptions Using Personality Psychology. GDC

Dunn, J. (2017, January 14). A visual history of Nintendo's video game consoles. Retrieved from https://www.businessinsider.com/nintendo-consoles-in-history-photos-switch-2017-1

Dunn, S. (2016, May 22). The Secret History Of Nintendo [Web log post]. Retrieved from http://www.simondunn.me.uk/?p=3403

Dutton, F. (2011, November 01). Nintendo: Wii wasn't intended as a casual console. Retrieved from https://www.eurogamer.net/articles/2011-11-01-nintendo-wii-wasnt-intended-as-a-casual-console

Economist Staff(2018). Success is on the cards for Nintendo. Retrieved from https://www.economist.com/graphic-detail/2018/04/27/success-is-on-the-cards-for-nintendo

Evangelho, J. (2018, June 20). Why Is Nintendo's Switch So Successful? It's All About The Marketing. Retrieved from https://www.forbes.com/sites/jasonevangelho/2018/06/20/why-is-nintendos-switch-so-successful-its-all-about-the-marketing/#2a31ee7d36c9

Evangelho, J. (2019, June 4). Google Stadia: Price, Game Announcements And Launch Details Ahead Of E3. Retrieved from https://www.forbes.com/sites/jasonevangelho/2019/06/04/google-stadia-console-price-game-announcements-and-launch-details-ahead-of-e3/.

Fahey, M. (2017, August 2). Player Spends $1,000 In Fire Emblem Heroes, Still Doesn't Have Hector. Retrieved from https://kotaku.com/man-spends-1-000-in-fire-emblem-heroes-still-doesnt-h-1792134459.

Fischer, T. (2018, June 24). Nintendo Is Happy Sony and Microsoft Don't Make Family and Kid-Friendly Games. Retrieved from https://comicbook.com/gaming/2018/06/24/nintendo-sony-microsoft-kid-family-games/

Fogel, S. (2019, February 25). Nintendo's 'Dragalia Lost' Surpasses Super Mario, Animal Crossing Revenue on Mobile. Retrieved from https://variety.com/2019/gaming/news/dragalia-lost-surpasses-super-mario-animal-crossing-revenue-1203148548/.

Fogel, S. (2019, March 6). Nintendo Asks Mobile Developers to Curb Microtransactions (Report). Retrieved from https://variety.com/2019/gaming/news/nintendo-mobile-microtransactions-1203156557/.

Forde, M. (2019, March 7). Pokemon Go trainers have spent $2.45 billion in less than three years. Retrieved from https://www.pocketgamer.biz/asia/news/70168/pokemon-go-trainers-have-spent-245-billion-in-less-than-three-years/.

Frank, A. (2017, March 24). Nintendo: Super Mario Run 'didn't meet expectations'. Retrieved from https://www.polygon.com/2017/3/24/15047870/super-mario-run-sales-nintendo-free-to-play.

Frank, A. (2018, January 25). Miitomo is shutting down in May. Retrieved from https://www.polygon.com/2018/1/24/16930778/miitomo-shut-down-date-may-2018.

Frank, A. (2018, March 05). Nintendo Switch deletes playtime data after a year (update). Retrieved from https://www.polygon.com/2018/3/2/17071158/nintendo-switch-playtime-hours-deleted-removed-activity-log

Friedman, L. (2016, August 03). Why Nostalgia Marketing Works So Well With Millennials, And How Your Brand Can Benefit. Retrieved from https://www.forbes.com/sites/laurenfriedman/2016/08/02/why-nostalgia-marketing-works-so-well-with-millennials-and-how-your-brand-can-benefit/#7dcb29be3636

Gach, E. (2018, August 20). Nintendo Announces A Bunch Of Switch Indie Game News. Retrieved from https://kotaku.com/nintendo-announces-a-bunch-of-switch-indie-game-news-1828460288

Gamesparks. (2017). Looking at In-Game Currencies. Retrieved from https://www.gamesparks.com/blog/looking-at-in-game-currencies/

Gee, J.P. (2005). Why Video Games Are Good for Your Soul: Pleasure and Learning. Melbourne: Common Ground.

Gentile, D. (2009) The Effects of Prosocial Video Games on Prosocial Behaviors: International Evidence From Correlational, Longitudinal, and Experimental Studies http://psp.sagepub.com/content/early/2009/03/25/0146167209333045.short

Georgiou, M. (2019, May 20). Mobile Game App Development: How Much Does It Really Cost? Retrieved from https://www.imaginovation.net/blog/mobile-game-app-development-cost/.

Ghahramani, A. (2015, September 03). Nintendo's Little-Known Product Philosophy: Lateral Thinking with Withered ("Weathered") Technology. Retrieved from https://medium.com/@adamagb/nintendo-s-little-known-product-philosophy-lateral-thinking-with-withered-technology-bac7257d8f4

Gilbert, B. (2018). 6 reasons you should buy a Nintendo Switch instead of a PlayStation 4 or Xbox One in 2018. Retrieved from https://www.businessinsider.com/nintendo-switch-vs-ps4-xbox-one-2017-11

Gilbert, B. (2019, July 17). The history behind Nintendo's flip-flop on mobile gaming. Retrieved from https://www.engadget.com/2015/03/17/nintendo-mobile-iwata/.

Goldsby, M. G. (2018). Entrepreneurship the Disney way. New York: Routledge.

Good, O. S. (2017, November 16). I spent $90 in Battlefront 2, and I still don't have any control over my characters. Retrieved from https://www.polygon.com/2017/11/16/16658476/star-wars-battlefront-2-loot-crate-costs-analysis.

Good, O. S. (2018, April 15). A look back at some of Nintendo's strangest hardware and accessories. Retrieved from https://www.polygon.com/2018/4/15/17239630/nintendo-weird-accessories-hardware-power-glove-rob-wii-vitality-sensor.

Good, O. S. (2018, November 15). Nintendo reaches settlement shutting down ROM hosts for good. Retrieved from https://www.polygon.com/2018/11/15/18097081/nintendo-rom-lawsuit-loveroms-loveretro-emuparadise

Gorges, F., Yamazaki, I., Mourlanne, R., & Daniel, B. (2012). The history of Nintendo. Triel-sur-Seine: PixN Love Publishing.

Goslin, A. (2019, September 25). Mario Kart Tour's $4.99 monthly subscription fee is out of touch with reality. Retrieved from https://www.polygon.com/2019/9/25/20883283/mario-kart-tour-gold-pass-features-price.

Griffin, A. (2017, February 17). Nintendo is about to launch the riskiest console ever made. Here's how it happened. Retrieved from https://www.independent.co.uk/life-style/gadgets-and-tech/features/nintendo-switch-interview-review-release-date-shinya-takahashi-yoshiaki-koizumi-features-a7582186.html

Gurwin, G. (2018, June 29). After a Scarce Supply in 2016, The NES: Classic Edition is Available Again. Retrieved from https://www.digitaltrends.com/gaming/nes-classic-is-back-june-2018/

Gurwin, G. (2019, August 2). All Fire Emblem Games, Ranked From Best to Worst. Retrieved from https://www.digitaltrends.com/gaming/all-fire-emblem-games-ranked-from-best-to-worst/.

Gutman, D. (1987). The Fall and Rise of Computer Games' COMPUTE!'s Apple Applications; 5 (6): 64-65. Retrieved from: Internet Archive. [Accessed on 1 February 2018]

Hamburger, E. (2011, November 2). Angry Birds Just Hit 500 Million Game Downloads Worldwide. Retrieved from https://www.businessinsider.com/angry-birds-sales-numbers-2011-11.

Han, W. (2017, December 9). Nintendo's Philosophy: Lateral Thinking with Withered Technology. Retrieved from https://medium.com/@uczlwha/nintendos-philosophy-lateral-thinking-with-withered-technology-f188f371e670.

Hao, L. (2018) Nintendo versus it's Competitors in Marketing Efforts. Aalto University School of Business. Retreived From https://aaltodoc.aalto.fi/bitstream/handle/123456789/33962/bachelor_Le_Hao_2018.pdf?sequence=1&isAllowed=y

Harris, B. J. (2014). Console wars. New York, NY: It Books, An imprint of HarperCollins.

Hayashi, H. (2014, January 22). Slow-to-adapt Nintendo reeling in the smartphone era. Retrieved from https://asia.nikkei.com/Business/Nintendo-failing-to-adjust-to-the-smartphone-age3.

Heisler, Y. (2016, July 14). Report: 90% of iOS apps are free; average cost of an iOS app is 19 cents. Retrieved from https://www.engadget.com/2013/07/18/90-of-ios-apps-are-free-average-cost-of-an-ios-app-is-19-cents/.

Herz, J. C (1997) . Joystiq Nation: How Video Games ate our Quarters, Won our Hearts, and Rewired our Minds. Boston: Little, Brown.

Hilliard, K. (n.d.). A Brief History Of The Fire Emblem Series. Retrieved from https://www.gameinformer.com/classic/2019/07/25/a-brief-history-of-the-fire-emblem-series.

Hsu, J. K., Thibodeau, R., Wong, S. J., Zukiwsky, D., Cecile, S., & Walton, D. M. (2010). A “Wii” bit of fun: The effects of adding Nintendo Wii®Bowling to a standard exercise regimen for residents of long-term care with upper extremity dysfunction. Physiotherapy Theory and Practice,27(3), 185-193. https://www.forbes.com/companies/nintendo/#488d1e7a1898

Huang, E. (2019, August 8). Mobile games may be Nintendo's answer to waning sales of its aging handheld devices. Retrieved from https://www.cnbc.com/2019/08/08/nintendos-mobile-games-may-replace-its-aging-3ds-handheld-device.html.

Hundeyin, D. (2019, January 19). Freemium Isn't Free! Free Mobile Games Generated a Whopping $61 Billion in 2018. Retrieved from https://www.ccn.com/Freemium-isnt-free-free-mobile-games-generated-a-whopping-61-billion-in-2018/.

Inoue, O. (2010). Nintendo magic: Winning the videogame wars. New York: Vertical.
Iqbal, M. (2019, May 10). Pokémon GO Revenue and Usage Statistics (2019). Retrieved from https://www.businessofapps.com/data/pokemon-go-statistics/.

Jackson, G. (2017, December 7). Nintendo Games Still Don't Feel Right On Mobile. Retrieved from https://kotaku.com/nintendo-games-still-don-t-feel-right-on-mobile-1821097096.

Jeong, E., & Kim, D. (2007). Definitions, Key Characteristics, and Generations of Mobile Games. Encyclopedia of Mobile Computing and Commerce, 184–189. doi: 10.4018/978-1-59904-002-8.ch032

Jones, S. E., & Thiruvathukal, G. K. (2012). Codename Revolution: The Nintendo WII Platform (Platform Studies). MIT Press.

Joorabchi, M. E., Mesbah, A., & Kruchten, P. (2013). Real Challenges in Mobile App Development. 2013 ACM / IEEE International Symposium on Empirical Software Engineering and Measurement. doi: 10.1109/esem.2013.9

Juul, J. (2003). The Game, the Player, the World: Looking for a Heart of Gameness. Retrieved from https://www.jesperjuul.net/text/gameplayerworld/.

Juul, J. (2010) A Casual Revolution: Reinventing Video Games and Their Players. Cambridge, MA: MIT Press.

Kelion, L. (2014, May 13). Sega v Nintendo: Sonic, Mario and the 1990's console war. Retrieved from https://www.bbc.com/news/technology-27373587

Khalid, H., Shihab, E., Nagappan, M., & Hassan, A. E. (2015). What Do Mobile App Users Complain About? IEEE Software, 32(3), 70–77. doi: 10.1109/ms.2014.50

Kim, W. C., & Mauborgne, R. (2005). Blue ocean strategy: How to create uncontested market space and make the competition irrelevant. Boston, Massachuetts: Harvard Bus Review Press.

Knight, R. (2018, June 1). The Best Video Game Mascots of All Time1. Mario. Retrieved from https://www.complex.com/pop-culture/2013/08/best-video-game-mascots/mario.

Koeder, M. J., & Tanaka, E. (2017). Game of chance elements in free-to-play mobile games. A Freemium business model monetization tool in need of self-regulation? ECONSTOR. Retrieved from https://www.econstor.eu/bitstream/10419/169473/1/Koeder-Tanaka.pdf

Kohler, C. (2017, June 30). Here's How Nintendo Transformed Itself in Just a Year. Retrieved from https://www.wired.com/2015/12/nintendo-2015-recap/

Kohler, C., & Yoshida, S. (2016). Power-up: How Japanese video games gave the world an extra life. Mineola: Dover Publications.

Korhonen, H., & Koivisto, E. M. I. (2006). Playability heuristics for mobile games. Proceedings of the 8th Conference on Human-Computer Interaction with Mobile Devices and Services - MobileHCI 06. doi: 10.1145/1152215.1152218

Korhonen, H., Saarenpää, H., & Paavilainen, J. (2008). Pervasive Mobile Games – A New Mindset for Players and Developers. Fun and Games Lecture Notes in Computer Science, 21–32. doi: 10.1007/978-3-540-88322-7_3

Leach, B. (2010, January 14). Call of Duty: Modern Warfare 2 takes $1 billion in sales. Retrieved from https://www.telegraph.co.uk/technology/video-games/6986632/Call-of-Duty-Modern-Warfare-2-takes-1-billion-in-sales.html.

LeJacq, Y. (2014, July 09). Not Being Able To Talk Trash Online In Mario Kart 8 Is Strange. Retrieved from https://kotaku.com/not-being-able-to-trash-talk-online-in-mario-kart-8-is-1602537841

Leung, L., & Liang, J. (n.d.). Mobile Phone Addiction. Encyclopedia of Mobile Phone Behavior, 640-647.

Levy, K. (2014, July 8). The Most Expensive Video Games Ever Made. Retrieved from https://www.businessinsider.com/the-most-expensive-video-games-ever-made-2014-7.

Liang, T.-P., & Yeh, Y.-H. (2010). Effect of use contexts on the continuous use of mobile services: the case of mobile games. Personal and Ubiquitous Computing, 15(2), 187–196. doi: 10.1007/s00779-010-0300-1

Lin, H.-F. (2014). The effect of product placement on persuasion for mobile phone games. International Journal of Advertising, 33(1), 37–60. doi: 10.2501/ija-33-1-037-060

Liu, C. Z., Au, Y. A., & Choi, H. S. (2014). Effects of Freemium Strategy in the Mobile App Market: An Empirical Study of Google Play. Journal of Management Information Systems, 31(3), 326–354. doi: 10.1080/07421222.2014.995564

Locklear, M. (2019, July 19). Loot crates are now illegal in Belgium. Retrieved from https://www.engadget.com/2018/04/25/loot-crates-illegal-in-belgium/.

Lynkova, D. (2019, August 30). How Many People Play Mobile Games Around the World in 2019. Retrieved from https://techjury.net/stats-about/mobile-gaming-demographics/.

Lynn, S. (2017, April 18). Using big data to create better mobile video games. Retrieved from https://www.shanelynn.ie/using-big-data-to-create-better-mobile-video-games/.

Macinnes, I., Moneta, J., Caraballo, J., & Sarni, D. (2002). Business Models for Mobile Content: The Case of M-Games. Electronic Markets, 12(4), 218–227. doi: 10.1080/101967802762553477

Makuch, E. (2019, January 9). Here's How Much Money Candy Crush Makes Compared To Fortnite And Pokemon Go On Mobile. Retrieved from https://www.gamespot.com/articles/heres-how-much-money-candy-crush-makes-compared-to/1100-6464305/

Mangalindan, J. P. (2010, March 18). Is casual gaming destroying the traditional gaming market? Retrieved from http://fortune.com/2010/03/18/is-casual-gaming-destroying-the-traditional-gaming-market/.

Manning, K. C., & Sprott, D. E. (2009). Price Endings, Left-Digit Effects, and Choice. Journal of Consumer Research, 36(2), 328–335. doi: 10.1086/597215

Marchand, A., & Hennig-Thurau, T. (2013). Value Creation in the Video Game Industry: Industry Economics, Consumer Benefits, and Research Opportunities. Journal of Interactive Marketing,27(3), 141-157.

Mccusker, C. G., & Gettings, B. (1997). Automaticity of cognitive biases in addictive behaviours: Further evidence with gamblers. British Journal of Clinical Psychology, 36(4), 543–554. doi: 10.1111/j.2044-8260.1997.tb01259.x

Miller, R. W. (2016, July 11). Teens used Pokémon Go app to lure robbery victims, police say. Retrieved from https://www.usatoday.com/story/tech/2016/07/10/four-suspects-arrested-string-pokemon-go-related-armed-robberies/86922474/.

Moreira, A., Filho, V., & Ramalho, G. (2014). SBC Journal on Interactive Systems. Retrieved from https://pdfs.semanticscholar.org/618a/5c7befe721cb2bfc94352c691b74829a5f43.pdf.

Morris, C. (2011, March 9). Are Apps Killing the Video Game Industry? Retrieved from https://www.cnbc.com/id/41988262.

Morris, C. (2011, March 18). Interview: Reggie Fils-Aime On Garage Devs And The Value Of Software. Retrieved from https://www.gamasutra.com/view/news/123973/Interview_Reggie_FilsAime_On_Garage_Devs_And_The_Value_Of_Software.php

Moyse, C. (2017, December 6). Google Play Japan awards Fire Emblem Heroes Best Game 2017. Retrieved from https://www.destructoid.com/google-play-japan-awards-fire-emblem-heroes-best-game-2017-476462.phtml.

Moyse, C. (2019, August 6). Even more Three Houses characters signing up for Fire Emblem Heroes. Retrieved from https://www.destructoid.com/even-more-three-houses-characters-signing-up-for-fire-emblem-heroes-563020.phtml.

Musgrave, S. (2016, July 28). Who Owns Pokemon, Anyway? It's Complicated. Retrieved from http://toucharcade.com/2016/07/28/who-owns-pokemon-anyway-its-complicated/.

Nakamura, Y. (n.d.). Nintendo treading on shaky ground as new mobile game takes 'gacha' global. Retrieved from https://www.japantimes.co.jp/news/2017/02/03/business/corporate-business/nintendo-treading-shaky-ground-new-mobile-game-takes-gacha-global/.

Namaki, M. S. S. E. (2012, September). Are we seeing a shift in corporate strategic behaviour today? Retrieved from https://iveybusinessjournal.com/publication/are-we-seeing-a-shift-in-corporate-strategic-behaviour-today/.

Nelson, R. (2019, March 6). Pokémon Franchise Games Catch $2.5 Billion on Mobile to Date, Downloads Top 640 Million. Retrieved from https://sensortower.com/blog/pokemon-franchise-mobile-revenue.

Nelson, R. (2019, February 12). Nintendo's Fire Emblem Heroes Has Grossed $500 Million Since Launch. Retrieved from https://sensortower.com/blog/fire-emblem-heroes-revenue-500-million.

Nintendo Mission Statement. (n.d.). Retrieved from https://www.nintendo.com/corp/mission.jsp

Nintendo. (2018, August 28). Nintendo announces diverse lineup of Nindies coming to Nintendo Switch - Nintendo Official Site. Retrieved from https://www.nintendo.com/whatsnew/detail/nintendo-announces-diverse-lineup-of-nindies-coming-to-nintendo-switch

Norman, D.A. & Verganti, R. (2014) 'Incremental and radical innovation: Design research vs. technology and meaning change' Design Issues. 30(1): 78-96.

Nutt, C. (2015, October 29). Miitomo: What's Nintendo trying to do with its first smartphone app? Retrieved from https://gamasutra.com/blogs/ChristianNutt/20151029/257875/Miitomo_Whats_Nintendo_trying_to_do_with_its_first_smartphone_app.php.

Ohannessian, K. (2012, June 07). The Social Living Room: How Nintendo's Wii Revolutionized Gaming And What It Means For The Future Of Consoles. Retrieved from https://www.fastcompany.com/1680649/the-social-living-room-how-nintendos-wii-revolutionized-gaming-and-what-it-means-for-the-fut

Olsen, R. A. (1997). Investment Risk: The Experts Perspective. Financial Analysts Journal, 53(2), 62–66. doi: 10.2469/faj.v53.n2.2073

Oxford, D. (2018, April 12). Why Does the Official Nintendo Seal of Quality End Up on Bad Games? Retrieved from https://www.oldschoolgamermagazine.com/why-does-the-official-nintendo-seal-of-quality-end-up-on-bad-games/

Oxford, N. (2011, September 21). Ten Facts about the Great Video Game Crash of '83. Retrieved from https://ca.ign.com/articles/2011/09/21/ten-facts-about-the-great-video-game-crash-of-83

Oxford, N. (2018, September 16). Nintendo 3DS Parental Controls Breakdown. Retrieved from https://www.lifewire.com/parental-controls-breakdown-1126236

Parikka, J., & Suominen, J. (2006, January). Victorian Snakes? Towards A Cultural History of Mobile Games and the Experience of Movement. Retrieved from http://gamestudies.org/0601/articles/parikka_suominen.

Peckham, M. (2015, March 18). Nintendo CEO on Mobile Gaming, Smartphones. Retrieved from http://time.com/3748920/nintendo-mobile-games/.

Perez, M. (2018, April 27). Nintendo Ends Its Comeback Year With Over $9 Billion In Revenue. Retrieved from https://www.forbes.com/sites/mattperez/2018/04/26/nintendo-ends-its-comeback-year-with-over-9-billion-in-revenue/#82af80d5ff03

Phillips, T. (2011, September 14). Iwata: Nintendo won't make mobile games. Retrieved from https://www.eurogamer.net/articles/2011-09-14-iwata-nintendo-wont-make-mobile-games

Phillips, T. (2016, March 31). Miitomo now live in the UK, in-app purchase prices listed. Retrieved from https://www.eurogamer.net/articles/2016-03-31-miitomo-now-live-in-the-uk-in-app-purchase-prices-listed.
Plunkett, L. (2017, October 25). I'm Playing The Animal Crossing Phone Game, And It's Pretty Good. Retrieved from https://kotaku.com/im-playing-the-animal-crossing-phone-game-and-its-pret-1819832782.

Pluralsight. (2017, June 1). Keep Your Players Engaged: Why Rewards and Medals Play a Key Factor in Your Game. Retrieved from https://www.pluralsight.com/blog/film-games/keep-players-engaged-rewards-medals-play-key-factor-game.

Poole, S. (2007). Trigger happy videogames and the entertainment revolution. New York: Arcade Publishing.

Pujol, N. (2010). Freemium: Attributes of an Emerging Business Model. SSRN Electronic Journal. doi: 10.2139/ssrn.1718663

Quora. (2017, December 26). Which Was The Better Acquisition For Facebook: WhatsApp Or Instagram? Retrieved from https://www.forbes.com/sites/quora/2017/12/26/which-was-the-better-acquisition-for-facebook-whatsapp-or-instagram/#74041d77a4e6

Rear, J. (2018, February 01). Which are Nintendo's most valuable franchises? Retrieved from https://www.verdict.co.uk/which-are-nintendos-most-valuable-franchises-nintendo-shares/

Reynolds, D. (2016). The Vitruvian Thumb: Embodied Branding and Lateral Thinking with the Nintendo Game Boy. The International Journal of Computer Game Research. Retrieved from: Game Studies Archive.

Robitzski, D. (2017, December 12). Pokémon STOP: Experts Find Game Caused Spike in Car Accidents. Retrieved from https://www.livescience.com/61168-pokemon-go-car-accidents.html.

Rogers, S. (2018, July 30). What Nintendo Can Teach Us About Game Design. Retrieved from https://www.nyfa.edu/student-resources/nintendo-can-teach-us-game-design/

Rosalsky, G. (2014) What can Games Teach us about Economics? Jstor Daily. Retrieved from https://daily.jstor.org/can-video-games-teach-us-economics/

Ryan, J. (2012). Super Mario: How Nintendo conquered America. London: Portfolio.
Sakamoto, M., & Nakajima, T. (2014). The GamiMedia Model: Gamifying Content Culture. Cross-Cultural Design Lecture Notes in Computer Science, 786–797. doi: 10.1007/978-3-319-07308-8_75

Saunders, K. (2017, November 02). Nintendo: A Case of a Supply Chain Struggles or Artificial Scarcity? Retrieved from http://morailogistics.com/nintendo-supply-chain-struggles-artificial-scarcity-part-1/

Scantlin, A. (2017, November 22). Both of Nintendo's mobile game payment models are fine. Retrieved from https://www.phonedog.com/2017/11/22/both-nintendos-mobile-game-payment-models-are-fine.

Schell, J. (2017). Art Of Game Design: a book of lenses, second edition. Place of publication not identified: CRC Press.

Seufert, E. B. (2014). Freemium economics: leveraging analytics and user segmentation to drive revenue. Amsterdam: Elsevier/Morgan Kaufmann.

Sharwood, S. (2018, January 27). Pokémon GO caused hundreds of deaths, increased crashes. Retrieved from https://www.theregister.co.uk/2017/11/27/pokemon_go_caused_car_accidents_and_deaths/.

Shaul, B. (2016, April 8). Unity: 71% of Players Prefer Watching Video Ads to 'Pay' for In-Game Content. Retrieved from https://www.adweek.com/digital/unity-71-of-players-prefer-watching-video-ads-to-pay-for-in-game-content/.

Sheff, D. (1993). Game over: How Nintendo zapped an American industry, captured your dollars, and enslaved your children. New York: Random House.

Shibuya, A., Teramoto, M., & Shoun, A. (2016). In-Game Purchases and Event Features of Mobile Social Games in Japan. Transnational Contexts of Development History, Sociality, and Society of Play, 95–122. doi: 10.1007/978-3-319-43820-7_4

Sidhu, I. (2011). Nintendo's Innovation Gap: When a Disrupter Becomes the Disrupted. Retrieved from https://www.forbes.com/sites/indersidhu/2010/11/17/nintendos-innovation-gap-when-a-disrupter-becomes-the-disrupted/

Silver, S. (2018, July 5). Apple details history of App Store on its 10th anniversary. Retrieved from https://appleinsider.com/articles/18/07/05/apple-details-history-of-app-store-on-its-10th-anniversary.

Sloan, D. (2011). Playing to Wiin: Nintendo and the video game industrys greatest comeback. Singapore: John Wiley & Sons (Asia) Pte.

Smith, B. P. (2012). The Effect of Self-Consciousness on Immersion and Flow During Video Game Play. In J. Gackenbach (Ed.), Video Game Play and Consciousness (pp. 102-118). New York: Nova Science Publishers, Inc.

Srikant, R. (2018). The Economics of Gaming Consoles. Retrieved from https://www.investopedia.com/articles/investing/080515/economics-gaming-consoles.asp

Statista 2019. (2019). App stores: number of apps in leading app stores Retrieved from https://www.statista.com/statistics/276623/number-of-apps-available-in-leading-app-stores/.

Statista (2019). Smartphone users in North America 2014-2019. Retrieved from https://www.statista.com/statistics/494561/smartphone-users-in-north-america/.

Statista. (2018). King number of monthly active users 2018 | Statistic. Retrieved from https://www.statista.com/statistics/281595/king-digital-entertainment-quarterly-mau/

Stuart, K. (2015, September 29). Why only Nintendo understands handheld gaming. Retrieved from https://www.theguardian.com/technology/2015/sep/29/nintendo-handheld-gaming-sony-playstation-vita.

Stuart, K. (2018, March 22). 'The stench of it stays with everybody': Inside the Super Mario Bros movie. Retrieved from https://www.theguardian.com/games/2018/mar/22/super-mario-bros-movie-killing-fields-chariots-fire-video-game

Stuart, K., & MacDonald, K. (2018, April 25). Inside Nintendo's secretive creative process. Retrieved from https://www.theguardian.com/games/2018/apr/25/nintendo-interview-secret-innovation-lab-ideas-working

Suckley, M. (2017, November 7). Has Konami's mobile pivot been a success? Retrieved from https://www.pocketgamer.biz/asia/the-charticle/66923/has-konamis-mobile-pivot-been-a-success/.

Takahashi, D. (2017, January 17). Pokémon Go generated revenues of $950 million in 2016. Retrieved from https://venturebeat.com/2017/01/17/pokemon-go-generated-revenues-of-950-million-in-2016/.

Takahashi, D. (2018, May 02). Newzoo: Games market expected to hit $180.1 billion in revenues in 2021. Retrieved from https://venturebeat.com/2018/04/30/newzoo-global-games-expected-to-hit-180-1-billion-in-revenues-2021

Tassi, P. (2014, January 11). An Inside Explanation Of Why Third Parties Have Left The Wii U. Retrieved from https://www.forbes.com/sites/insertcoin/2014/01/11/an-inside-explanation-of-why-third-parties-have-left-the-wii-u/#1abf56ab1ea8

Tassi, P. (2014, March 1). Why It's Scary When 0.15% Mobile Gamers Bring In 50% Of The Revenue. Retrieved from https://www.forbes.com/sites/insertcoin/2014/03/01/why-its-scary-when-0-15-mobile-gamers-bring-in-50-of-the-revenue/#6daf3db40659.

Tassi, P. (2017, December 2). 'Animal Crossing: Pocket Camp' Isn't Making Nintendo Very Much Money. Retrieved from https://www.forbes.com/sites/insertcoin/2017/12/02/animal-crossing-pocket-camp-isnt-making-nintendo-very-much-money/#8bf74382ddd3.

Taylor, H. (2018, July 3). Super Mario Run surpasses $60m revenue after two years. Retrieved from https://www.gamesindustry.biz/articles/2018-07-03-super-mario-run-surpasses-usd60m-revenue-after-two-years.

Taylor, H. (2018). Games expected to account for 76% of global mobile revenue in 2018. Retrieved from https://www.gamesindustry.biz/articles/2018-09-11-games-expected-to-account-for-76-percent-of-global-mobile-revenue-in-2018

Tiffany, K. (2019, May 14). Angry Birds and the end of privacy. Retrieved from https://www.vox.com/explainers/2019/5/7/18273355/angry-birds-phone-games-data-collection-candy-crush.

Totilo, S. (2016, July 06). What Makes Shigeru Miyamoto Tick. Retrieved from https://kotaku.com/what-makes-shigeru-miyamoto-tick-1783220930

Tran, E. (2019, July 26). Fire Emblem: Three Houses Developers Are Unsure Why The Series Is Popular In The West. Retrieved from https://www.gamespot.com/articles/fire-emblem-three-houses-developers-are-unsure-why/1100-6468629/.

Tran, K. (2017, September 20). The indie games industry is perfect. Retrieved from https://www.gamasutra.com/blogs/KennethTran/20170920/305421/The_indie_games_industry_is_perfect__and_thats_the_problem.php

Turner, A. (2019, October 3). 1 Billion More Phones Than People In The World! BankMyCell. Retrieved from https://www.bankmycell.com/blog/how-many-phones-are-in-the-world.

Twenge, J. M. (2018, March 19). Have Smartphones Destroyed a Generation? Retrieved from https://www.theatlantic.com/magazine/archive/2017/09/has-the-smartphone-destroyed-a-generation/534198/.

Underhill, P. (2009). Why We Buy: The Science Of Shopping. New York, NY: Simon & Schuster Paperbacks.

Uzialko, A. C. (2018, August 03). How Businesses Are Collecting Data (And What They're Doing With It). Retrieved from https://www.businessnewsdaily.com/10625-businesses-collecting-data.html

Vajk, T., Coulton, P., Bamford, W., & Edwards, R. (2008). Using a Mobile Phone as a “Wii-like” Controller for Playing Games on a Large Public Display. International Journal of Computer Games Technology, 1–6. doi: 10.1155/2008/539078

Valentine, R. (2018, August 1). Animal Crossing: New Leaf becomes best-selling title in the franchise. Retrieved from https://www.gamesindustry.biz/articles/2018-08-01-animal-crossing-new-leaf-now-best-selling-title-in-the-franchise.

Volpe, J. (2015, February 27). Deconstructing the method to Nintendo's madness. Retrieved from https://www.engadget.com/2015/02/27/deconstructing-nintendo/

Voskuil, E. (2014). Before Mario: The fantastic toys from the video game giants early days. France: Omaké Books.

Wang, Y. (n.d.). The History of Mobile Phone Games. Retrieved from https://www.sutori.com/story/the-history-of-mobile-phone-games—oxYN51N1pfW8DYbAe2CGG3yL.

Webb, K. (2019, January 18). Netflix says it's more worried about competition from video games like 'Fortnite' than other streaming services. Retrieved from https://www.businessinsider.com/netflix-fortnite-competition-q4-earnings-2019-1

Wells, N. (2015, August 5). The shocking truth about mobile gaming. Retrieved from https://www.cnbc.com/2015/08/03/the-shocking-truth-about-mobile-gaming.html.

Whitehead, T. (2013, November 02). Talking Point: Nintendo's Safe and Family-Friendly Focus is Integral to Its Fortunes. Retrieved from http://www.nintendolife.com/news/2013/11/talking_point_nintendos_safe_and_family_friendly_focus_is_integral_to_its_fortunes

Whitehead, T. (2014, November 10). Shigeru Miyamoto Outlines Core Nintendo Philosophies, Not "Boring" Alternatives. Retrieved from http://www.nintendolife.com/news/2014/11/shigeru_miyamoto_outlines_core_nintendo_philosophies_not_boring_alternatives

Whitehead, T. (2015). Satoru Iwata Insists Smart Device Game Pricing Won't "Hurt Nintendo's Brand Image", Aims for "Several" Simultaneous Hits. Retrieved from http://www.nintendolife.com/news/2015/03/satoru_iwata_insists_smart_device_game_pricing_wont_hurt_nintendors_brand_image_aims_for_several_simultaneous_hits.

Wijman, T. (2018, April 30). Global Games Market Revenues 2018: Per Region & Segment. Retrieved from https://newzoo.com/insights/articles/global-games-market-reaches-137-9-billion-in-2018-mobile-games-take-half/.

Winter, F. (2017). Marketing Aspects in the Game Design Process of Free-To-Play Mobile Games. Conference Proceedings Trends in Business Communication 2016, 189–194. doi: 10.1007/978-3-658-17254-1_20

Wolf, J. (2019, May 30). Nintendo aims to do competitive gaming their way. Retrieved from https://www.espn.com/esports/story/_/id/26857358/nintendo-aims-do-competitive-gaming-their-way.

Wong, J. I. (2016, October 26). We finally know how much Nintendo made from Pokémon Go. Retrieved from https://qz.com/819677/nintendo-pokemon-go-profits-we-finally-know-how-much-nintendo-made-from-pokemon-go/.

World Health Organization. Management of Substance Abuse: Gaming behaviour. (2019, January 11). Retrieved from https://www.who.int/substance_abuse/activities/gaming_disorders/en/.

WSJ Staff. (2014, January 30). Recap: Nintendo Addresses Its Strategy. Retrieved from https://blogs.wsj.com/digits/2014/01/29/live-nintendos-strategy-briefing-to-address-future-direction/