



Masters Programmes

Assignment Cover Sheet

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1. Introduction

On March 3rd, 2017, a cutting-edge game console, Nintendo Switch, made its first debut in America, Europe, and Japan. The Nintendo Switch stood out from other game consoles because of its unprecedented design: a hybrid console that can be used as both a stationary and portable device (Lin, Chih-Wei Lin, Yu-Sheng Xie, Yi-Sheng Chang, Jui-Hsiu, 2022). Such refreshing design brought Nintendo tremendous profits. The Nintendo Switch sold over 13 million in its first year on the market and the sales did not cool down but ramped up relentlessly. By September of 2022, Nintendo Switch have sold over 114 million units in total (Nintendo, 2022). Moreover, the Nintendo Switch has been considered the most popular and successful game console of all time (Montebello, 2021).

Over the past 40 years, the Nintendo game console has evolved from handed console (Game Boy in 1980s), television platform console (Wii in 2007), to now the hybrid game console (Switch in 2017). All of these exciting the whole world when they showed up in every Nintendo Conference. However, Nintendo has not always been so popular in the game market; the gaming industry in 2010s is quite competitive due to the fast develop of mobile games and the prevalence of e-sports, such as League of Legends and DOTA2 (Baltezarevic, 2018). And this is the time that Nintendo decided to launch their new console, Wii U in 2011 (Nintendo, 2022) and suffered a complete failure.

How should Nintendo modify their strategy and future product direction from the failure? And how did Nintendo stand out from such a competitive market and become one of the most powerful game companies in the world? It is therefore my interests to

research and analyze what Nintendo has done wrong with Wii U and how they bounced back with Switch and became all the rage in the world.

2. Business Analysis Themes

2.1 Product Management and Risk Analysis of Nintendo

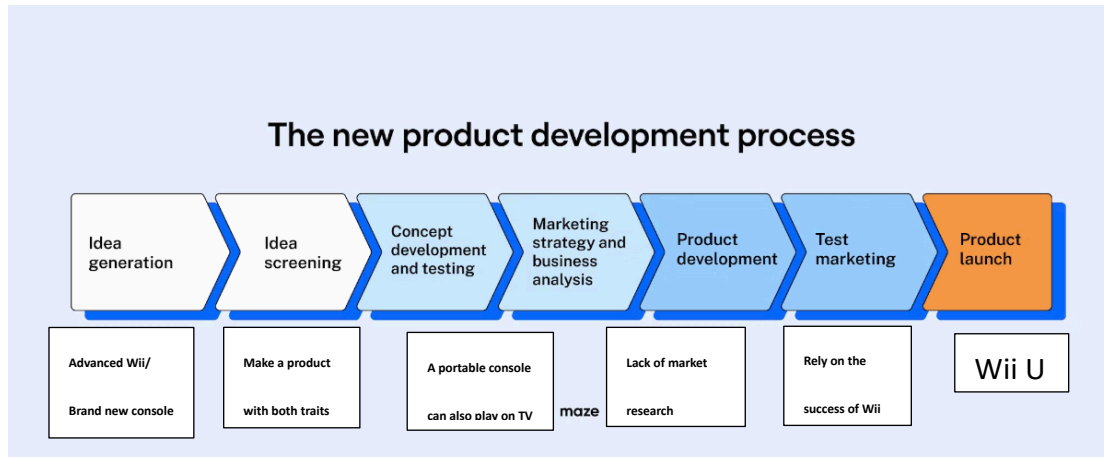


Figure 1. The Seven Stages of the Product Development process (Maggy Machler, 2022)

Applying the development process of a new product, I analyzed the process of how Nintendo decided to produce Wii U and placed each process in a graph. (Figure 1.)

The organization structure of Nintendo is a matrix, there are separate teams responsible for certain projects/products, including game software development, hardware development, marketing department, and finance department...etc.

(Appendix 4.1) This kind of structure is derived from functional structure and the project structure. There are several advantages a company can take by implementing the matrix structure, such as the project/product is the main purpose, the project/product has access to all functional departments, the responses of each department are quick and allows for a better balance of resources to achieve the common goal (Elvis Elezaj, Donjeta Morina, Beke Kuqi, 2022). All of above elements enables Nintendo to produce high-tech game consoles efficiently and still maintain a decent quality. However, the shortcoming is that the project manager might oversees

administrative decisions and could be arbitrary when making decisions.

It is such the shortcoming that caused Nintendo make a wrong decision to develop Wii U and encountered its first financial deficit since 1980s (Nintendo, 2022).

Because of the success of Wii in 2007 and the brand images (Super Mario Brothers, The Legend of Zelda, and Pokémon) Nintendo has been operating for over 15 years, the product manager continued to copy this format and launched Wii U in 2011 without noticing that the seemingly familiar software and an advanced console with little innovations has caused consumers to position Wii U as a tablet peripheral for the Nintendo Wii but not an entirely new console (Buckley, 2013); moreover, there were no previous market research or consumer surveys before developing the next generation game console of Nintendo. As a result, Nintendo faced its first financial deficit. A failure like this was unprecedented for Nintendo, but fortunately, the issues surrounding the perceived quality of the Wii U did little to destroy the brand image of Nintendo games (Silverman, 2015).

In this situation, I observed that Nintendo do little research of what kind of game console do consumers like or expect to buy and lack of awareness of the changing in the gaming industry. I construed the reason is that Nintendo has been the leader in this industry for years and consumers used to take what Nintendo provided to them. However, the gaming industry changed dramatically in 2010s, the prevalence of e-sports and the rise of mobile games are impacting the market (Baltezarevic, 2018). Therefore, I would suggest Nintendo do risk analysis and management for every new game console they wanted to devote in.

Figure 2. Shows the project risk management, there are three branches: identification, quantification, and response control (Maylor, 2022). The risk

identification is the indicator that shows something is going wrong in a project; the risk quantification is to quantify the possible outcomes of certain risk and how likely the risk would happen; the response control is the back-up plan that gives the team strategies to correct and minimize the lost due to certain risk. (Maylor, Harvey Turner, Neil, 2022)

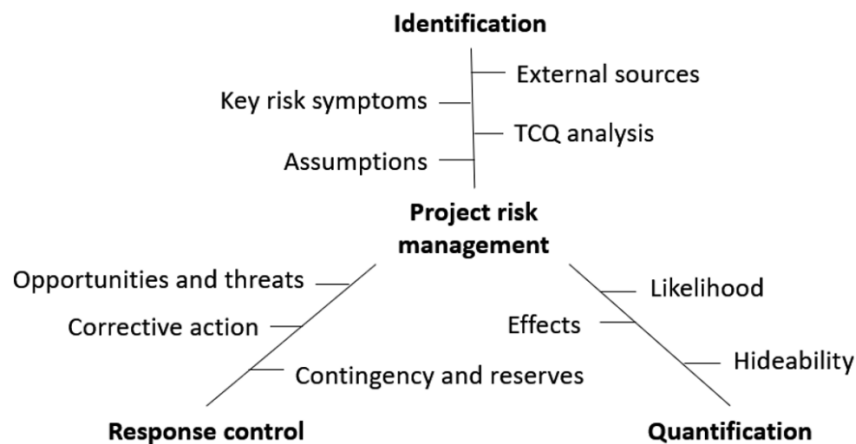


Figure 2. Risk Management Schema (Maylor 2010:220)

The Nintendo can plot Probability-Impact Chart (PIC) to analyze and frame the risks of its ongoing projects/products. There are two dimensions in PIC, “probability” and “impact”. The y-axis(probability) shows how likely the risk would appear, and the x-axis demonstrate how serious the risk would cause to the ongoing project (Maylor, Harvey Turner, Neil, 2022). The risk on the top right with red color means that risk is very likely to happen and the impact is significant; in contrast, the risk on the down left with green color means that risk is not likely to happen and the consequence is not serious.

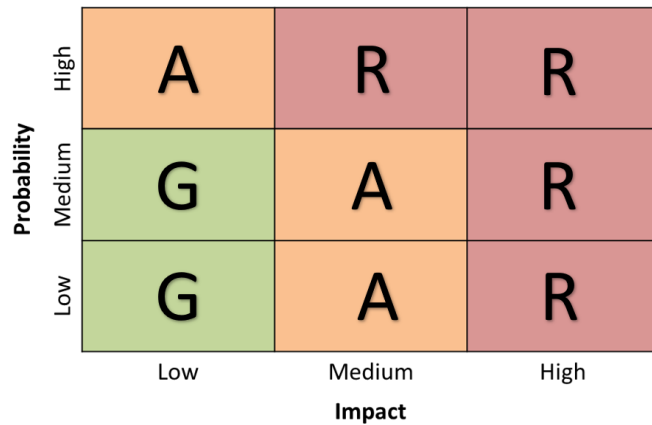


Figure 3. Probability-Impact Chart

In this particular case, I also developed a matrix (Figure 4. PIC Matrix) to show each potential risk and how to handle with it. I briefly stated three potential risks that Nintendo might face when launch a new console, and luckily, Nintendo has a really good foundation in the gaming market: leading technologies, recognizable brand images, and strong third-parties game developers that enable the company to easily minimize the risk in the process of developing a new product. Finally, with the leading technology and huge customer and market data bases for over 20 years, Nintendo can build a Monte Carlo simulation to forecast its expected develop time and risks before starting the project (Goran Avlijas, 2019). Monte Carlo simulation is a good method for Nintendo because the data accessibility and practical marketing experience of senior managers can be useful when building models and interpreting uncertainty and ambiguity of the expected outcomes. (Palisade, 2022)

Risk	Urgency	Reason	Person Responsible	Action
Old Competitors	Top	Microsoft may also launch a	Marketing research team,	Make questionnaire to make sure we are

		new game console and damage company profits	Console develop team, Project manager	making game console that will be popular in the market
New Competitors	Top	The rise of PC-game and Mobile game may cause people not to buy new game console since computer and mobile phone is a cheaper choice	Game Software develop team, Marketing research team, Project manager	Develop interesting games that can only be played on the new console, Make promotion before the new console is released
Loses interests in brand images	Medium	Consumers may be bored with old characters such as Mario, Link, Pikachu	Game Software develop team, Marketing research team, Project manager	Create new brand images and make some breakthroughs in styling or gameplay on the old characters

Figure 4. PIC Matrix

2.2 The success and failure of Nintendo Switch

After the failure of Wii U in 2011, Nintendo reevaluated the market and its primary competitors: Sony and Microsoft. Nintendo noticed that the life cycles of game consoles, such as Xbox(5-8 years) and Play Station(6-7 years) series, are much longer than Nintendo's life cycle(4-5 years) (Gilbert, 2022). This time, Nintendo tried to build a long-lasting game console and aimed to satisfy wide ranges of demographics of gamers through multiple modes of use (Lin, Chih-Wei Lin, Yu-Sheng Xie, Yi-Sheng Chang, Jui-Hsiu, 2022). This idea was then materialized and became a portable video game device with a screen and joysticks controller on both sides: Nintendo Switch. In addition to the refreshing design, Nintendo also released a software that went rival and now is one of Nintendo's signature game : Animal Crossing (Nguyen Vinh, 2021). These two moves of Nintendo are bold but brilliant. In order to develop a long-lasting game console, it requires extremely powerful hardware performance to allow new games five or even ten years later to play smoothly on the same console. In other words, Nintendo has to ensure that its technology and design at that time can still work after years (Keith Stuart, 2017). However, Nintendo has successfully extended the product life cycle of Switch (Appendix 4.2) from previous 4-5 years to now over 6 years. The president of Nintendo, Shuntaro Furukawa, also declared that until 2024, Nintendo will not release any new console but keep updating games for Switch (Nintendo, 2022). And now, the unit sales of Nintendo Switch does not stop but keep challenging the historical records(Figure 5.) (Jordan Sirani, 2023).

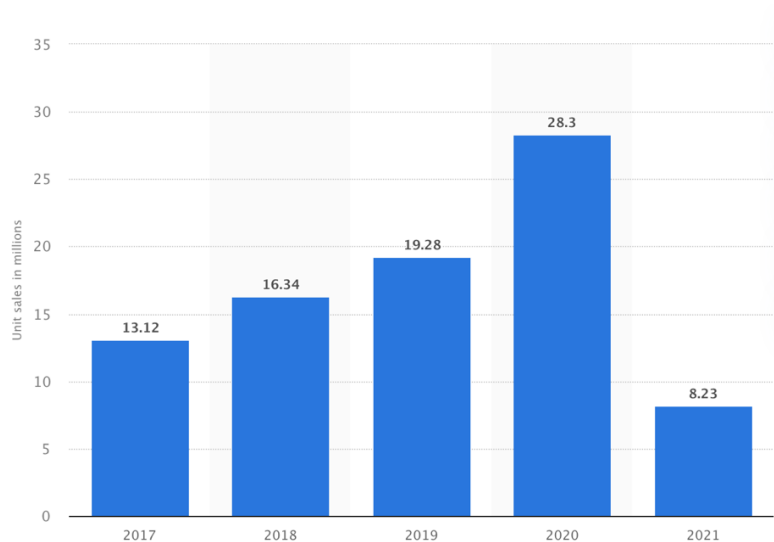


Figure 5. Annual unit sales of the Nintendo Switch Worldwide from 2017 to Jan 2021.

Not to mention how successful the new brand image: Animal Crossing, is with over 39.38 million units sold worldwide so far and consider one of the most popular game in the world (Nintendo, 2022) The new Nintendo image can prevent consumers fatigue, attract new consumers, create new game lines, and remix the old characters with new popular Nintendo stars in a new game can also satisfy every audience (Trish Smyth, 2020).

Although the success of Nintendo Switch and its new game in 2017 has brought Nintendo a tremendous profit, the outbreak of Covid-19 two years later caused the company to suffer some setbacks. The cause of the incident was that the sales volume of Nintendo Switch increased dramatically in 2020 due to Covid-19 and the stay-home policy. However, Nintendo's supply chains cannot produce such a high output during such a short period to meet the sky-rocketing demand in the market. The hardware of Nintendo Switch is produced in Asian countries in order to lower the cost. But due to the stay-home police, manufactures could not proceed necessary components of Nintendo Switch with the standard efficiency and led to the reduction

in supply. (Chen Zheng, 2022).

Although Nintendo Switch is definitely a milestone in gaming history, the supply chain deficiencies still had Nintendo lose many potential profits. Therefore, this is my desire to analyze how Nintendo can prevent similar mistake happened in the future. First of all, I would like to break down the process of Nintendo Switch supply chain by applying Work Breakdown structure (Robert T. Hans, 2013). The Figure 6. displays the whole structure of Nintendo Switch Supply Chain.

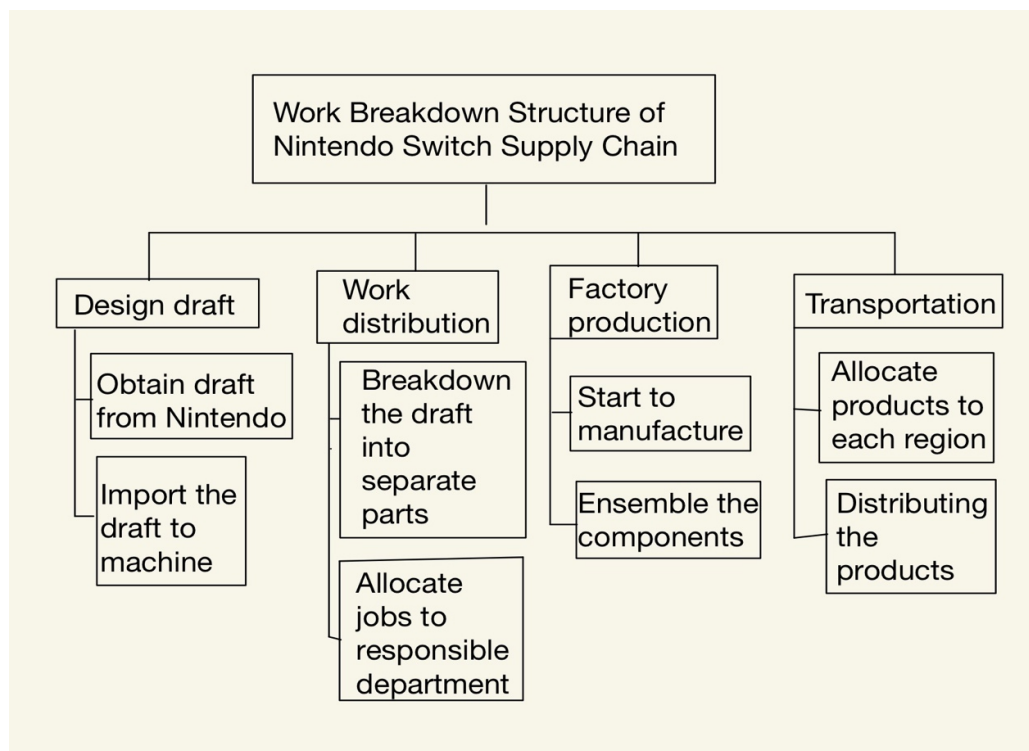


Figure 6. WBS of Nintendo Switch Supply Chain

There are four main branches, each of these has two principal components. Start from design draft, work distribution, manufacturing, to distribution, every process has there own working days and I aimed to apply Activity-on-Node Diagram (Ariel Lopez, 2021) with the critical path analysis to determine a better solution for Nintendo. The Figure 7. below is the A-o-N diagram. We can clearly see the necessary working

days and how many days can be delayed for every step through this diagram.

Nintendo can apply this method for their supply chain and find the critical path. The critical path gives Nintendo a better understanding of which stage is the most important, and to maximize the efficiency of that stage can surely optimize the whole supply chain production and meet the market demand as a whole (Will Kenton, 2021).

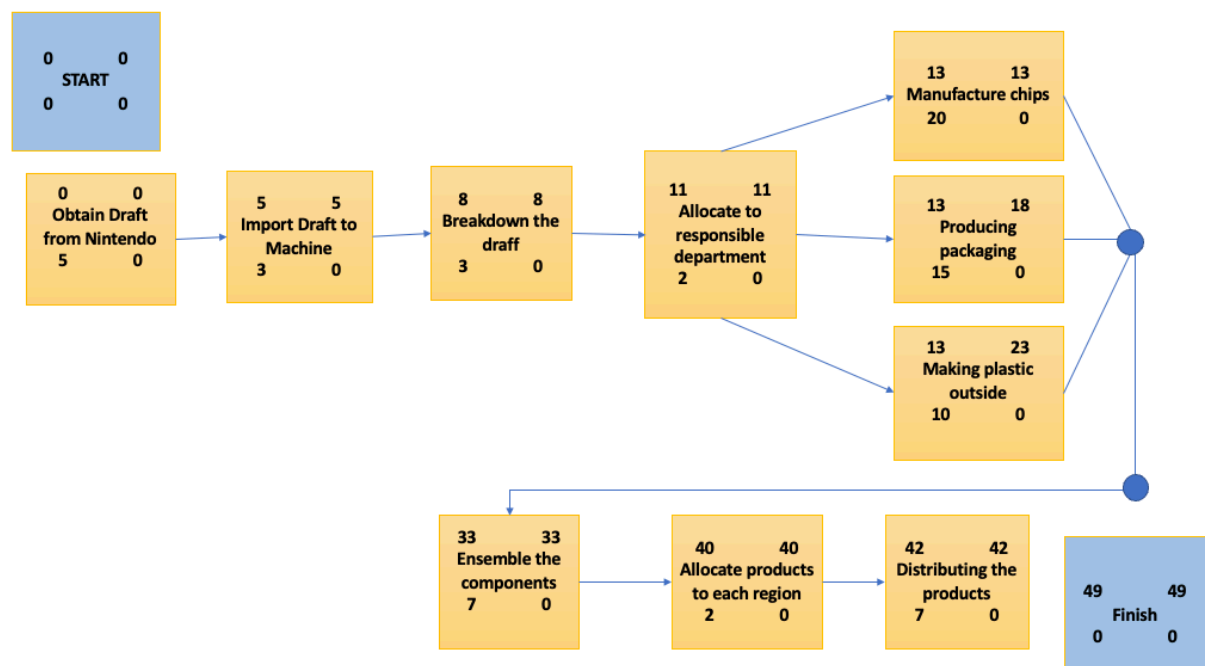


Figure 7. The AoN and critical path of Nintendo supply chain.

2.3 The future of Nintendo and Nintendo Switch

The business and technology successful of releasing Nintendo Switch in 2017 is undeniable. But as a diehard fan of Nintendo, growing up with Nintendo Game Cube, receiving Nintendo DS as my birthday gift at age of 6, playing Wii with my families for over 10 years, and now bringing Nintendo Switch with me when study abroad, it is my concern that the Research & Development team of Nintendo will not release new console until 2024.

The world famous IP(Intellectual Property), Pokemon, released its new game on Nintendo Switch: Pokemon Scarlet&Violet, on November 18th 2022 (PokemonOfficial, 2022). This highly anticipated game soon conquered the game market with over 10 million copies of sale in only three days, which doubling the 5 million sales of God of War: Ragnarok in a week, which was a record made by Sony (Paul Tassi, 2022). However, it was such a popular game release and number of sales that brought the problem of insufficient hardware performance of Nintendo Switch to the table. The negative reviews of game playing experience are raging over the forums (Appendix 4.3). Most reviews indicate that the game design and Pokemon itself are fine, but the inconsistent framerate, random and annoying lighting effects, broken models pop in and out are destroying players' gaming experience (Rebekah Valentine, 2022). All of these indicated that the performance of Nintendo Switch cannot satisfy the latest game and it is time for Nintendo to upgrade Nintendo Switch.

In the purpose of keeping the benefits for both sides: Nintendo wants to extend the life cycle of its game console, the players want acceptable gaming experience, I would therefore suggest Nintendo do CATWOE analysis (Paolo Kukhnavets, 2017). The matrix below is the CATWOE analysis of Nintendo to make transformation for Nintendo Switch.

CUSTOMERS	ACTORS	TRANSFORMATION
<i>The players and consumers of Nintendo Switch</i>	R&D Engineers, Game Designers, Marketing teams,	<i>Do not release newly game console but sending packages to console to optimize game performance.</i>

WORLD VIEW	OWNER	ENVIRONMENT
<i>The review score of Nintendo Switch along with game software will increase.</i> <i>The total revenue might increase through word-of-month</i> <i>The resources and time of</i>	<i>The CEO and shareholders of Nintendo</i>	<i>The accessibility of network for sending upgrade packages to players.</i>

The CATWOE analysis stands for Customers, Actors, Transformation, Worldview, Owner, and Environment. The customers in this particular case are all Nintendo Switch players since they will be affected by Nintendo's policies. The actors of the theme are those who involved in the situation and implement solutions for Nintendo. The transformation is the process and policy made by Nintendo, which is to upgrade the game console. One of the most important elements is the world view, I stated the wide impact and the following consequences of the transformation.

Overall, the aim of this theme is to implement an upgrade software package to every Nintendo Switch console. This method can fulfill both Nintendo's and players' desires and it is also a stimulation for third-party developer to keep cooperating and producing games on Nintendo Switch platform. In my past experience of software developer, this idea is feasible and will only need the R&D department to create console optimization packages and notify players to download the package through network.

3 Conclusion

In conclusion, this research has provided a critical analysis of the failure and the rise of Nintendo in the gaming industry and the solution of its recent difficulty. In summary, it is my interest to delve into Nintendo's business decisions and try to evaluate the future of Nintendo's newly console. For such intention, I have evaluated the decision of releasing Wii U in 2011, the supply chain shortage of Switch, and the danger of extending the life cycle of console. Within this research, I have showed how and what Nintendo can improve its risk management, supply chain efficiency, and maintaining good quality of its game console.

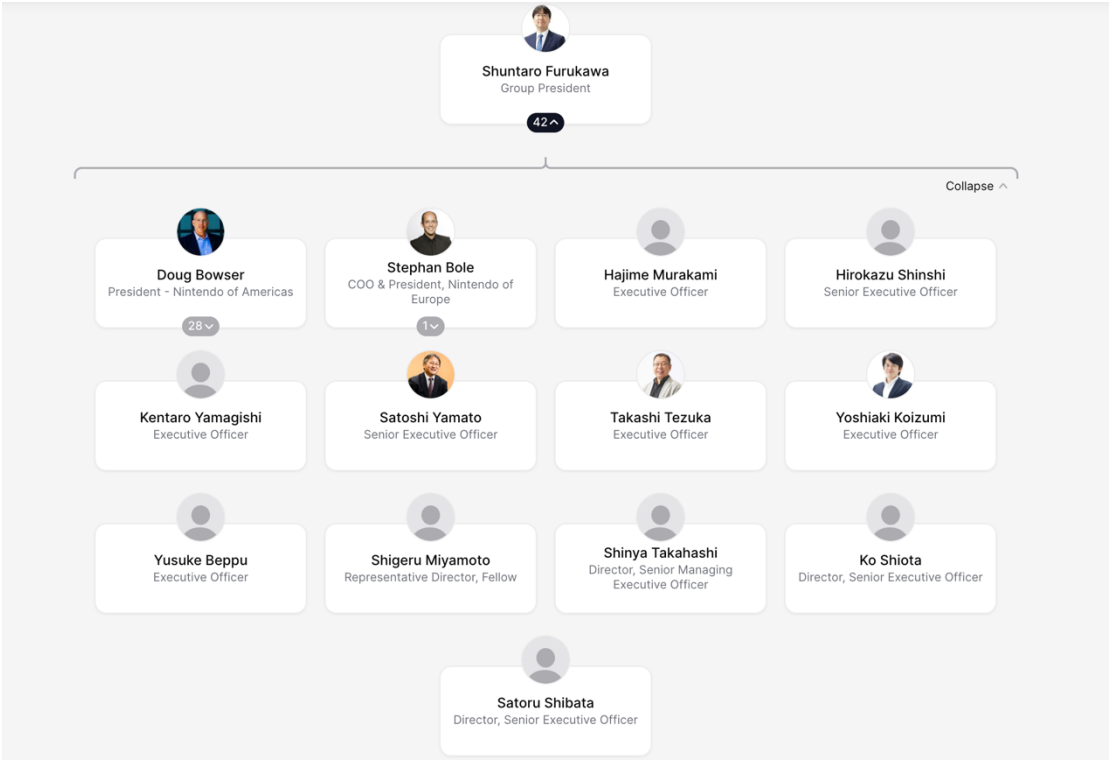
For the failure of releasing Wii U, my suggestion is to apply PIC (probability impact chart) before a project is conducted. The PIC could show the probability and impact of a certain risk. Furthermore, the data accessibility and leading technology of Nintendo shall make the company easier to build a precise and trust worthy risk evaluate model. the Monte Carlo simulation will only improve year after year because of more data fed in the model. In terms of supply chain shortage, Nintendo can improve by using WBS (Work Breakdown Structure) and CPA (Critical Path Analysis). WBS demonstrates the structure of a project and CPA provides insights of work flow of the project. The combination of WBS and CPA will benefit Nintendo from optimizing its production and logistics management. In terms of extending product life cycle, my recommendation is to regularly send updates packages to game console, which not only improves the players' gaming experience, but also fosters loyalty to the company's product.

The methods of my recommendation could surely help Nintendo improve its future

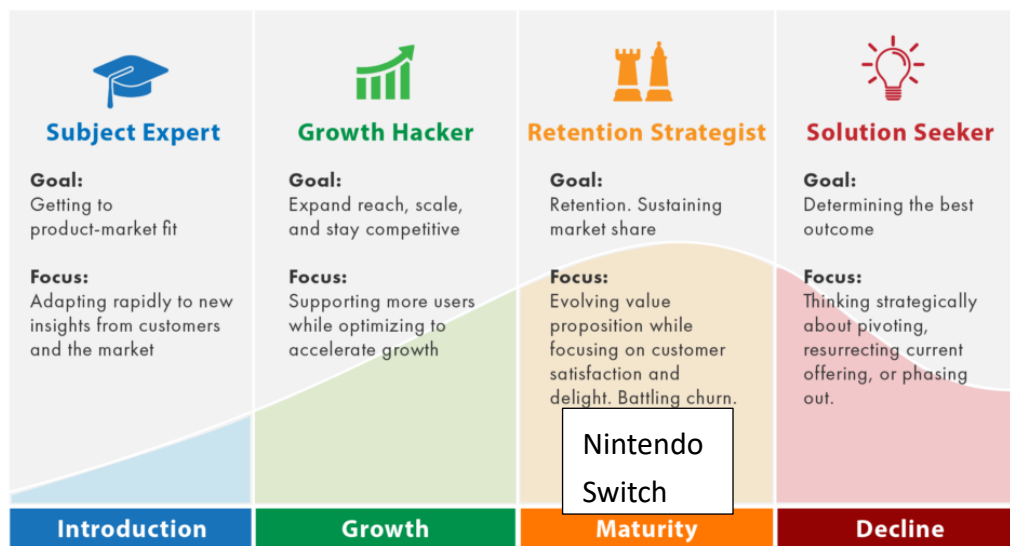
decision making, logistics efficiency, and extending product life cycle. Although the implementations I gave above are based on limited information available online. It is important for a global leading company as Nintendo to analyze its risks, optimize its logistics, and implement solution for new policies. Nevertheless, I still consider Nintendo one of the greatest game company in the world and believe Nintendo's team can overcome any obstacles in the future.

4 Appendices

4.1 Nintendo organization structure



4.2 Life Cycle of Nintendo Switch



4.3 The negative review of Pokemon Scarlet&Violet

IGN's Rebekah Valentine saw this first-hand while reviewing *Pokémon Scarlet* and *Violet*. "These games run like garbage," she says. "There are also tons of bizarre clipping issues where Pokémon can get caught in walls or underground, or the camera gets stuck at an odd angle and show an empty void on half the screen."

24 November, 2022

I will pick this up once most of the fundamental issues has been fixed. Honestly, I thought Nintendo would have higher standard than this, rather than letting Pokemon Company release the game in such a state.

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Been really binge playing this game as I had this week off. Yes it has problems and sometimes they're massive but I've really enjoyed myself. There is a fix for the framerate issues, just reset the game or travel to the academy and leave the building to reset the memory leak.

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