



ΠΑΝΕΠΙΣΤΗΜΙΟ
ΠΑΤΡΩΝ
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Nintendo Business analysis, the video game consoles market.

Assignment in Business Financial Analysis

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BUSINESS ANALYSIS

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Strategy Analysis

Video game consoles market is dominated by three main competitors: PlayStation, Xbox, and Nintendo. The number of companies may be noticeably small, but there is a great deal of rivalry with one another. Not only the gigantic-size acquisitions of video game studios but also heavy-handed statements between them, compose a highly competitive market. The market is also threatened by other fields of entertainment such as computer and mobile games, i.e. competitors cannot rest their case and take advantage of the corresponding market power they possess.

Five forces framework

1. Competitive Rivalry: Highly competitive industry, established players, strong brand names.
2. Threat of new entrants: High barriers to entry, significant R&D investment needed, brand recognition.
3. Threat of substitutes: Many options for entertainment (mobile games, movies, social media) but Nintendo's consoles and games are unique and differentiated, with a focus on family-friendly and innovative gameplay, which reduces the threat of substitutes.
4. Bargaining power of buyers: Moderate bargaining power, loyal customer base and unique product offering helps reduce the bargaining power of buyers.
5. Bargaining power of suppliers: Low bargaining power, Nintendo has developed long-term relationships with suppliers and has a significant market share. Also, the company has its own development studio which reduces its dependance on third-party developers.

Empirical measures

We calculate the Herfindahl index for the video game consoles market in order to express the market concentration and have a measurable insight for the industry. This measurement has been arose by the firms revenues for the fiscal years 2019 - 2022. It is important to note that the HHI does not provide a precise picture of market competitiveness on its own.

Note:

The values in Table 1 express the companies' revenues from their economic activities and were taken from their accounting books. It is likely that each company calculates its results in a different way.

Table 1 presents the revenues of the three competitors by year. As we can see, this table suggests that while PlayStation has consistently been the highest earner and has held the highest market share, there have been shifts in the industry in recent years, with Nintendo and Xbox both experiencing significant changes in their revenue and market share.

Table 1. Three competitor's Revenues

<i>Fiscal year</i>	Playstation	Nintendo	Xbox
2019	\$ 20.700.000.000,00	\$ 11.300.000.000,00	\$ 11.600.000.000,00
2020	\$ 24.400.000.000,00	\$ 16.700.000.000,00	\$ 11.500.000.000,00
2021	\$ 24.500.000.000,00	\$ 13.200.000.000,00	\$ 15.500.000.000,00
Market Share 2019	0%	26%	27%
Market Share 2020	46%	32%	22%
Market Share 2021	46%	25%	29%

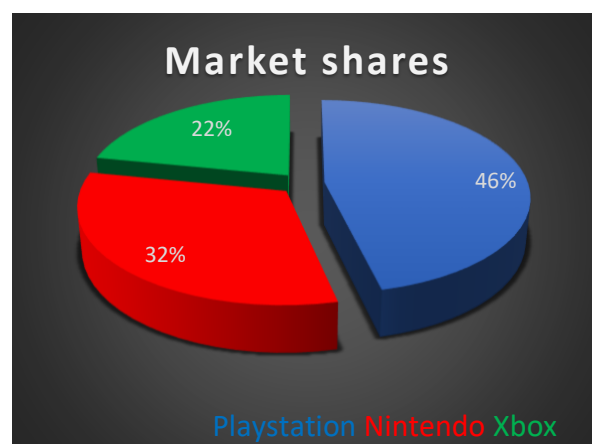


Table 2 displays the total revenues for the gaming industry across all companies for the fiscal years 2019 to 2022. The data indicates that the gaming industry experienced a significant increase in revenue during the Covid-19 pandemic. The total revenue for 2019 was \$109.0 billion, which increased only slightly to \$109.03 billion in 2020. However, the total revenue for 2021 saw a substantial jump to \$121.8 billion, followed by an even larger increase to \$134.8 billion in 2022.

This suggests that the gaming industry not only weathered the pandemic well but thrived during this period. The surge in revenue can be attributed to the increased demand for video games as people spent more time at home during lockdowns and social distancing measures. The trend is expected to continue as the industry adapts to new gaming technologies and players' evolving preferences.

Table 2. Total market Revenues

2019 Total	\$	43.600.000.000,00
2020 Total	\$	52.600.000.000,00
2021 Total	\$	53.200.000.000,00

As shown in table 3, the HHI index fluctuates on 42% for each of the years 2019 - 2022. This implies that the market of video game consoles, as represented by PlayStation, Xbox, and Nintendo, has remained relatively stable in terms of concentration over this time period.

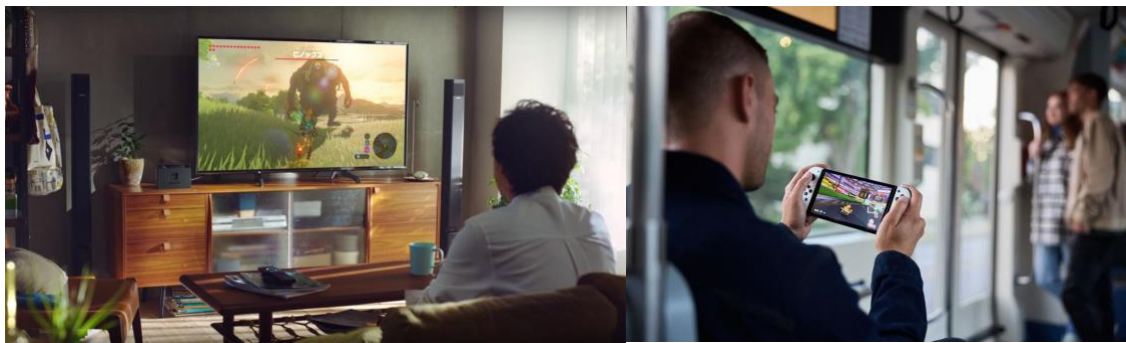
Table 3. Herfindahl index by year

(2019) HHI =	14%
(2020) HHI =	36%
(2021) HHI =	36%

Competitive Strategy Analysis

Nintendo's competitive strategy approach in the gaming industry is focused on differentiation. The company focuses on providing its customers with a unique hybrid console that has no limits on the place you can play on. Additionally, the casual family friendly games, the universally known IPs and characters (Super Mario, Zelda), the focus on innovation and the quality of hardware and software has managed to grant Nintendo a strong competitive advantage over its industry rivals.

Nintendo Switch: The Art of Differentiation in Hardware Design



For the past 6 years, Nintendo Switch has been the main console for Nintendo. Nintendo Switch is a unique gaming console that offers a versatile and innovative gaming experience. Its hybrid design, which allows the players to use the console both as a traditional home console and as a portable device, makes it stand out from other consoles on the market.

High-value Nintendo Software:



Nintendo has earned a reputation for producing some of the gaming industry's most inventive and unique titles. They have a reputation for taking chances and experimenting with novel concepts, which produces games that stand out from the competition and feel innovative. Nintendo also places a high priority on quality and attention to detail, thus its games are well-made and polished. Several of their games are also family-friendly, with vibrant graphics and humorous plotlines that appeal to gamers of all ages. While the other companies may compete on graphics and processing power, Nintendo's focus on creating innovative and accessible games has allowed them to stand out and build a strong brand identity. Finally, Nintendo has created some of the most iconic characters and franchises in gaming history, such as Mario, Zelda, and Pokémon. This combination of innovation, quality, family-friendly content, and iconic characters has helped to cement Nintendo's place in the gaming industry and build a loyal fanbase that trusts the company to consistently deliver great games.

Corporate Strategy analysis

Nintendo operates in multiple business segments. While the company is best known for its video game products, it also has other business segments, including:

Video Game Consoles: This is Nintendo's core business segment, which includes the development, production, and sale of video game consoles such as the Nintendo Switch, Nintendo 3DS, and Wii U.

Video Game Software: This segment includes the development, production, and sale of video game software, including popular franchises such as Mario, Zelda, and Pokémon.

Mobile Games: Nintendo has expanded into the mobile games market in recent years, releasing games such as Super Mario Run and Fire Emblem Heroes for mobile devices.

Amusement Park Attractions: In 2020, Nintendo opened its first-ever amusement park, Super Nintendo World, in Japan and United States on February 2023. This business segment includes the development and operation of theme park attractions based on Nintendo's popular video game franchises.

Merchandise: Nintendo also sells a wide range of merchandise, including clothing, toys, and collectibles based on its popular video game franchises.

So, while video game consoles and software remain Nintendo's core business segments, the company has expanded into other areas to diversify its revenue streams and reach new audiences.

Accounting analysis

Methodology for major asset valuation

(i) Securities:

The amortized cost approach (straight-line method) is applied to debt instruments that are kept to maturity. Other securities with market quotations are valued using the moving-average method, and other securities without market quotations are stated at cost using the market price method based on the market price, etc., on the account closing date (valuation difference is reported as a component of net assets).

(ii) Derivatives:

The fair value approach is used.

(iii) Inventories:

The statistics provided in the balance sheets have been determined by writing them down based on a loss in profitability. They are mostly reported at cost using the moving-average approach.

Depreciation and amortization methods of significant depreciable and amortizable assets

(i) Property, plant and equipment (excluding leased assets):

Although the Company and its domestic consolidated subsidiaries employ the declining balance technique, some equipment, furnishings, and fixtures are subject to depreciation based on their useful life in accordance with their commercial obsolescence. However, the straight-line technique is used for buildings bought on or after April 1, 1998, as well as for facilities attached to buildings and structures acquired on or after April 1, 2016, with the exception of accompanying facilities. The straight-line technique is used by overseas consolidated subsidiaries based on the anticipated economic usable life. The following are the useful lifetimes of major assets: structures and constructions 3-60 years.

(ii) Intangible assets are amortized using the straight-line method, except for leased assets: Internally used software is depreciated over the anticipated internal useful life, which is typically five years.

(iii) Leased assets:

Leased items in finance lease agreements where ownership is not transferred. The lease period is used as the useful life when applying the straight-line technique with no residual value.

Accounting for significant reserves

(i) Allowance for doubtful accounts:

The Company and its domestic consolidated subsidiaries provide the allowance for doubtful accounts based on individual evaluations of uncollectible amounts for receivables, including doubtful accounts, and historical analysis of loss history for general receivables. The provision for doubtful accounts is provided by overseas consolidated subsidiaries based on an individual assessment of the uncollectible amount for each receivable.

(ii) Bonus provisions:

The reserve for the anticipated bonus payments to employees is provided by the Company and some of its consolidated subsidiaries.

Accounting method for retirement benefit

(i) The periodic method of allocating the estimated benefit obligation:

The expected benefit obligation is applied, using a benefit formula, to the periods through the end of the fiscal year that concluded on March 31, 2020, when determining the retirement benefit requirements.

(ii) Amortization method for actuarial gains and losses and past service cost:

Actuarial gains and losses and past service cost are processed collectively in the year in which they are incurred.

(iii) Application of simple method at small enterprises, etc:

Some consolidated subsidiaries apply a simple method including a method in which an estimated amount required to be paid for voluntary retirement benefits at the end of the fiscal year is deemed as the retirement benefit obligations in the calculations of retirement benefit liability and retirement benefit expenses. Assets in the Company's defined benefit corporate pension plan are recorded as "Retirement benefit asset" under investments and other assets as the plan assets exceeded the retirement benefit obligations.

Standards of translation into yen of significant assets or liabilities denominated in foreign currencies

Based on the spot rate of exchange, all the monetary receivables and payables as well as the assets and liabilities of the company are translated into Japanese yen. Whereas revenue and expenses are converted into yen by the average exchange rate. The foreign exchange gains and losses from translation are recognized in the accompanying consolidated statements of income. The differences resulting from such translations are included in “Foreign currency translation adjustment” under net assets.

Scope of cash and cash equivalents in the consolidated statements of cash flow: “Cash and cash equivalents” include cash on hand, time deposit which can be withdrawn on demand and short-term investments, with little risk of fluctuation in value and maturity of three months or less of the acquisition date, which are promptly convertible to cash.

Other important matters in preparing the consolidated financial statements.

Accounting for consumption taxes:

Consumption taxes and local consumption taxes are accounted for by the tax exclusion method.

Profitability analysis

Table 1 presents the overall profitability of Nintendo for the fiscal years of 2019, 2020 and 2021. Having the Profits and the Share Holder's Equity we are able to compute the Return on Equity ratio.

Table 1.

	<i>FY</i>	<i>FY</i>	<i>FY</i>
Overall Profitability	2021	2020	2019
Profit or Loss	3.948	4.367	2.395
Share Holder's Equity	16.557	16.923	14.587
Return on equity (ROE)	24%	26%	16%

Decomposing Profitability:

In order to decompose the profitability, it is essential to conduct it with these two approaches, Traditional and Alternative approach so as to compare the differences in computing firm's performance. Table 2 and 3 provide detailed insight of the required components.

Table 2.

	<i>FY</i>	<i>FY</i>	<i>FY</i>
Traditional Approach	2021	2020	2019
Net profit margin (ROR)(%)	28%	27%	20%
x Asset turnover	0,64	0,72	0,68
Return on assets (ROA)(%)	18%	20%	13%
x Equity multiplier	1,33	1,31	1,23
Return on equity (ROE)	24%	26%	16%

Table 3.

	<i>FY</i>	<i>FY</i>	<i>FY</i>
Alternative Approach	2021	2020	2019
Net operating profit margin (%)	17%	19%	16%
x Net operating asset turnover	0,93	1,07	0,89
Return on net operating assets (%)	16%	20%	14%
x (Net operating assets/invested capital)	2,1	2,4	1,8
Return on non-operating investments	9%	6%	7%
x (Non-operating investments/invested capital)	0,02	0,03	0,02
Return on invested capital (%)	18%	19%	13%
Spread (%)	23%	32%	18%
x Financial leverage	0,25	0,24	0,19
Financial leverage gain (%)	6%	8%	3%
Return on equity (ROE)	24%	26%	16%

Comparison of ROE Components

Having these two methods implemented, we are drawing comparisons of key elements such as Asset turnover, ROA and Financial leverage.

Table 4.

ROE Components	<u>Traditional:</u>	<i>FY</i> 2021	<i>FY</i> 2020	<i>FY</i> 2019	<u>Alternative:</u>	<i>FY</i> 2021	<i>FY</i> 2020	<i>FY</i> 2019
Asset turnover		0,64	0,72	0,68		0,93	1,07	0,89
ROA		18%	20%	13%		16%	20%	14%
Financial leverage		0,26	0,23	0,19		0,25	0,24	0,19

Discussion of Results from Profitability Analysis

Considering the aforementioned measures and result, tables 1-4 reflect the profitability evaluation of Nintendo company for the fiscal years of 2019, 2020 and 2021, which is profitable to the extent of \$2.3, \$4.3, and \$3.9 billion, respectively. Additionally, the Return on Equity is calculated with different approaches and components so as to spot the possible contrasts. As far as the components of these two analyses are concerned, we notice interesting differences on the results of Asset turnover, ROA and Financial Leverage.

Overall, Nintendo's performance seems to set the highest returns in 2020 earning \$4.3 billions in profit. A possible key-reason for this rate of growth could be due to the covid restrictions as people stayed at home and turned their interests in videogames. However, as the covid restrictions removed, a large number of this growth remained.

Operating management analysis

Common-sized income statement and key profitability ratios:

Key profitability ratios and a common-sized income statement for Nintendo's fiscal years 2021, 2020, and 2019 are shown in the table below. We divided each line item by the total revenues for the year to express each item as a percentage of total revenues in order to construct the common-sized income statement. This enables us to see how each spending and profitability metric have changed in magnitude over time. The table also includes important profitability ratios, such as the gross profit margin, operating profit margin, and net profit margin, which are determined by dividing the respective gross profit, operating profit, and net income by the total sales. These ratios shed light on the effectiveness with which Nintendo is able to turn a profit from its business activities and sales.

The gross profit margin, which measures the profitability of a company's core operations, has steadily increased over time, reaching 55.8% in fiscal year 2021. This indicates that the

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organization has been successfully controlling its material costs and refining its pricing methods.

The EBITDA margin, which measures profitability before interest, taxes, depreciation, and amortization, has also shown a favorable increase. It grew from 27.0% in fiscal year 2019 to 39.7% in fiscal year 2021. This demonstrates that the firm has been effective in lowering operational expenditures and increasing operating profits.

The NOPAT margin, which represents net operating profit after tax as a proportion of revenue, has been reasonably steady, averaging between 27 and 28%. This suggests that the company has maintained consistent profitability after accounting for taxes.

The net profit margin, which measures the company's overall profitability after deducting all expenditures, has increased significantly. It increased from 12.6% in fiscal year 2019 to 33.9% in fiscal year 2021. This significant rise might be attributable to improved cost management, higher income, or lower non-operating expenditures.

In terms of cost changes, human expenditures have gradually increased as a percentage of revenue throughout the years, signaling possible workforce expansion or salary increases. Despite this rise, however, the corporation has been able to enhance its overall profitability, as indicated by improving profit margins.

Overall, the company's financial performance has been great, with improving profit margins and effective cost control. These patterns indicate that the organization has taken methods to increase its profitability, operational efficiency, and cost structure.

<i>Ratio</i>	<i>FY 2021</i>	<i>FY2020</i>	<i>FY2019</i>
Line items as a percentage of revenue (%)			
Revenue	100,0	100,0	100,0
Personnel expense	-20,8	-18,7	-22,1
Cost of materials	-44,2	-44,8	-50,9
Depreciation and amortization	-0,6	-0,6	-0,7
Other operating income or expense	0,3	0,4	0,6
Net non-recurring income or expense	0,2	0,1	0,0
Net operating profit before tax	34,9	36,4	26,9
Tax on operating items	-6,7	-9,1	-7,2
Net operating profit after tax (NOPAT)	28,2	27,3	19,7
Investment and interest income	5,7	-7,4	-7,3
Interest expense	0,0	0,0	0,0
Tax on non-operating items	0,0	-0,5	0,2
Profit or loss	33,9	19,4	12,6
Key profitability ratios (%)			
Gross profit margin	55,8	55,2	49,0
EBITDA margin	39,7	38,7	27,0
NOPAT margin	28,2	27,3	19,7
Net profit margin	33,9	19,4	12,6

Financial management analysis

Liquidity analysis:

An essential aspect of financial management is liquidity analysis, which determines whether a business is capable of servicing its short-term debts. It involves reviewing a company's present assets and obligations to determine if it can generate enough cash to cover its current demands. With the use of this analysis, management is more equipped to assess the effectiveness of their working capital plan and determine how to best manage their liquidity. It also helps to recognize possible liquidity concerns and create efficient solutions over them. An accurate liquidity analysis ultimately helps a business to maintain a healthy cash flow and timely fulfill its financial obligations, both of which are critical to its longevity.

<u><i>Liquidity Analysis</i></u>	<u><i>2021</i></u>	<u><i>2020</i></u>	<u><i>2019</i></u>
Current ratio	3,93	3,84	4,23
Quick ratio	3,43	3,58	3,80
Cash flow ratio	3,16	3,31	3,42
Operating cash flow ratio	0,54	1,16	0,98

Solvency analysis:

The ability of a corporation to fulfill its long-term financial obligations is assessed using a key financial management method known as the "solvency analysis." To ascertain the ability of an organization to settle obligations and maintain financial stability, it requires examining its assets, liabilities, and equity. Financial managers may make sensible choices about investing in activities by properly interpreting the solvency analysis. A good solvency ratio indicates that a corporation has enough assets to meet its long-term debt commitments. The company may be in financial trouble and may find it difficult to meet its obligations if the solvency ratio is negative, respectively.

<u><i>Solvency Analysis</i></u>	<u><i>2021</i></u>	<u><i>2020</i></u>	<u><i>2019</i></u>
Liabilities to equity ratio	0,30	0,28	0,25
Debt to equity ratio	0,14	0,16	0,12
Debt to capital ratio	0,12	0,14	0,10

Sustainable growth rate analysis

The ability of a business to develop over time without additional external capital can be determined through a financial management procedure known as the sustainable growth rate analysis. This ratio may indicate that the business relies too heavily on external capital or that it has internal resources that it might employ to support possible expansion.

High potential annual growth rate without requiring additional external financing. Has a rewarding policy on its shareholders by distributing high payouts, while simultaneously retains earnings for reinvestments.

<i>Sustainable growth rate analysis</i>	<i>2021</i>	<i>2020</i>	<i>2019</i>
ROE	24%	26%	16%
Dividend payout ratio	50%	55%	50%
Sustainable growth rate	12%	12%	8%

Cash flow analysis

A financial analysis approach named cash flow analysis is used to assess a company's cash inflows and outflows over a given time period. It entails evaluating the cash that is produced through financing, investing, and operating operations. The main goal of cash flow analysis is to reveal information about the liquidity, solvency, and general financial health of an organization.

Profit before interest and taxes (PBIT) has shown a changing trend, rising from USD 3.3 billion in FY 2019 to USD 6.2 billion in FY 2020, then falling to USD 5.6 billion in FY 2021. This predicts a period of good profitability in FY 2020, maybe owing to greater operational performance or cost control, followed by a minor dip in FY 2021, which could be ascribed to a variety of causes including increasing expenditures or changes in market circumstances.

Non-operating losses (gains) indicate the company's profits or losses from activities outside than its primary business. The numbers demonstrate a downward trend, with large decreases in fiscal years 2020 and 2021 compared to fiscal year 2019. This indicates that the corporation has suffered less losses or made more profits from non-operating operations in recent years.

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Operating cash flow before working capital investments shows the cash flow generated by the company's activities before any working capital investments. The statistics show that cash flow was positive in all three years, with a significant rise from a negative value in FY 2019 to positive values in FY 2020 and FY 2021. This represents increased cash generation from operating operations.

Overall, the indices show that the company's financial performance has been uneven, with fluctuations in profitability, improved cash flow from operations, enhanced free cash flow, changes in dividend payments, and an increase in cash reserves. To acquire a thorough knowledge of the company's financial health and performance, these indicators must be analyzed in conjunction with other aspects.

<i>Line item (USD millions)</i>	<i>FY 2021</i>	<i>FY 2020</i>	<i>FY 2019</i>
Profit Before interest and tax	5573,00	6193,00	3345,00
Taxes paid plus tax shield on interest paid	-2182,56	-1210,28	-1032,28
Non-operating losses (gains)	-1645,00	-2740,00	-2885,00
Non-current operating accruals	-101,00	-101,00	-104,00
Operating cash flow before working capital investments	1644,44	2141,72	-676,28
Net (investments in) or liquidation of operating capital	-62,00	-19,00	-84,00
Operating cash flow before investment in non-current assets	1582,44	2122,72	-760,28
Interest and dividends received	40,00	79,00	162,00
Net (investments in) or liquidation of non-current operating or investment assets	0,00	22,00	0,00
Free cash flow available to debt and equity	1622,44	2223,72	-598,28
Interest paid after tax	-2,00	-1,00	-1,00
Net debt (repayment) or issuance	5070,00	5572,00	4604,00
Free cash flow available to equity	6690,44	7794,72	4004,72
Dividend (payments)	-1988,00	-1763,00	-1003,00
Net share (repurchase) or issuance	0,00	0,00	0,00
Net increase (decrease) in cash balance	4702,44	6031,72	3001,72

Prospective analysis: Forecasting

Nintendo, PlayStation, and Xbox are three of the top console manufacturers currently on the market. The list of unique titles and dedicated fan bases that each firm has help grow their respective market shares. New consoles have reenergized the industry and sparked excitement among players, including the PlayStation 5, Xbox Series X/S.

Nintendo is expected to launch a new system in the next two years, which is anticipated to have a big effect on the market. Launches of new consoles commonly result in greater customer interest, which boosts sales and spurs market expansion. The expectation for Nintendo's upcoming system is anticipated to be strong given their track record for innovation and popular console launches like the Nintendo Switch.

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As far as the Nintendo's estimations for the next fiscal year are concerned, a report of their possible performance for 2024 have been posted by Nintendo's management in terms of the financial briefing reports, which set up the firm's goal. This report reveals that the company is expecting a drop in sales of their systems as they have now matured in the market and are about to be replaced with the upcoming generation of consoles.

Table 1 suggests that as the life cycle of the Nintendo's current console approaches an end, the revenues will be on a declining track. On fiscal year 2025, where the next generation of Nintendo's console is expected, the firm's revenues will be increased while their new hardware will be distributed. However, the launch of the new console is expected to have a negative impact on Nintendo's profit margins. It is commonly regarded that, having a new system launched, its first years of sales would decrease the firm's profitability as the system will have a tight profit margin in order to be produced and offered with a fair market price.

<i>Forecast year</i>	<i>2019(%)</i>	<i>2020(%)</i>	<i>2021(%)</i>	<i>2022(%)</i>	<i>2023(%)</i>	<i>2024(%)</i>	<i>2025(%)</i>
Revenue growth rate	11.0	32.0	-12.4	-5.6	-9.5	-10.0	30.0
NOPAT margin	19.7	27.3	28.1	21.1	23.4	20.1	13.5
Operating working capital/revenue	0.87	0.85	0.93	0.99	1.09	1.10	0.83
Net non-current operating assets/revenue	0.33	0.24	0.31	0.33	0.37	0.41	0.31
Non-operating investments/revenue	0.25	0.18	0.25	0.27	0.29	0.33	0.25
After-tax return on non-operating investments	3.60	4.74	3.45	3.23	2.88	2.55	3.47
After-tax cost of debt	0.29	0.30	0.31	0.32	0.33	0.34	0.35
Debt to capital	20.3	23.3	22.2	22.3	22.4	22.5	22.6

In addition to these assumptions, we also assume that the revenues will continue to grow with a slightly decreased rate over the next years.

Valuation implementation

Computing discount rate

Having at our disposal Nintendo's monthly returns as well as the monthly market returns for the period 2018-2021, we were able to estimate the beta of the business which was used for the calculation of the discount rate.

Table 1. Discount rate estimates(ols)

Variable	Model
Beta	.59**(.24)
R-squared	.12
Observations	47

Discount rate:

$$D = r_f + b\{E(r_m) - r_f\} = 3.7\% + 0.59 * 5\% = 6.65\%$$

The needed rate of return anticipated by investors to cover the risk and time value of money connected with Nintendo's projects and activities. The present value of future cash flows and the feasibility of investment possibilities are both heavily influenced by this rate. A lower rate denotes a lower risk environment or a more cautious attitude to investing, whereas a larger discount rate would imply a higher perceived risk environment or a higher projected return. To achieve effective financial decision-making, the 6.65% discount rate should be carefully assessed in respect to the firm's risk profile and the current market conditions.

Performance forecasts for Nintendo:

We take notice of the fact that according to the forecasts, Nintendo's maturation won't be complete until the fiscal year 2024, by which time its new system will have made its debut and been put on the market. As Nintendo reaches stages of increased profitability from the next console and the games that will be launched and advertise the new system to the broader public, the first returns from its new platform are expected to begin showing up in fiscal year 2025.

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Table 2. Detailed Forecasts

Fiscal year	2019	2020	2021	2022	2023	2024	2025
Beginning balance sheet (USD millions)							
Beginning operating working capital	10.610,00	13.165,00	13.104,00	12.705,00	12.184,00	11.785,00	15.440,00
+Beginning net non-current operating assets	4.004,00	3.887,00	4.431,00	3.427,00	3.511,00	3.507,00	4.100,00
+Beginning non-operating investments	3.098,00	2.982,00	3.584,00	2.522,00	2.664,00	2.602,00	4.240,00
=Business assets	17.712,00	20.034,00	21.119,00	18.654,00	18.359,00	17.894,00	23.780,00
Debt	3.640,00	5.202,00	4.901,00	4.742,00	3.981,00	3.822,00	4.800,00
+Group equity	14.072,00	14.832,00	16.218,00	13.912,00	14.378,00	14.072,00	18.980,00
=Invested capital	17.712,00	20.034,00	21.119,00	18.654,00	18.359,00	17.894,00	23.780,00
Income statement (USD millions)							
Revenue	12.115,00	15.990,00	14.011,00	13.226,38	11.969,88	10.772,89	14.004,76
Net operating profit after tax	3.219,00	5.564,00	2.393,00	2.258,99	2.044,39	1.839,95	2.391,93
+Net investment profit after tax	- 1.744,00	- 1.241,00	774,00	730,66	661,24	595,12	773,66
=Net business profit after tax	1.475,00	4.323,00	3.167,00	2.989,65	2.705,63	2.435,07	3.165,59
-Net interest expense after tax	-	-	-	-	-	-	-
=Profit or loss	1.475,00	4.323,00	3.167,00	2.989,65	2.705,63	2.435,07	3.165,59
RNOA(%)	13%	20%	18%	15%	14%	13%	24%
ROE(%)	16%	26%	24%	22%	20%	18%	30%
BV of net operating assets growth rate(%)	17%	24%	-1%	-1%	-1%	-1%	27%
BV of equity growth rate(%)	13%	16%	-2%	-2%	-2%	-2%	19%
Profit or loss	1.475,00	4.323,00	3.167,00	2.989,65	2.705,63	2.435,07	3.165,59
-Change in operating working capital	2.555,00	- 61,00	- 399,00	- 521,00	- 399,00	3.655,00	4.632,00
-Change in net non-current operating assets	- 117,00	544,00	- 1.004,00	84,00	- 4,00	593,00	4.100,00
-Change in non-operating investments	- 116,00	602,00	- 1.062,00	142,00	- 62,00	1.638,00	4.240,00
+Change in debt	1.562,00	- 301,00	- 159,00	- 761,00	- 159,00	978,00	4.800,00
=Free cash flow to equity	5.359,00	5.107,00	543,00	1.933,65	2.081,63	9.299,07	20.937,59
Net operating profit after tax	3.219,00	5.564,00	2.393,00	2.258,99	2.044,39	1.839,95	2.391,93
-Change in operating working capital	2.555,00	- 61,00	- 399,00	- 521,00	- 399,00	3.655,00	4.632,00
-Change in net non-current operating assets	- 117,00	544,00	- 1.004,00	84,00	- 4,00	593,00	4.100,00
=Free cash flow from operations	5.657,00	6.047,00	990,00	1.821,99	1.641,39	6.087,95	11.123,93

Terminal Values:

In finance, terminal values are the estimated value of an investment or firm at the conclusion of a given time. They are critical in assessing an asset's long-term worth (Damodaran, 2012). Terminal values are determined using approaches such as discounted cash flow analysis to enhance decision-making and evaluate the attractiveness of an investment (Berk & DeMarzo, 2017). Investors and analysts get insight into the asset's future cash flows by integrating terminal values (Copeland et al., 2016). Overall, terminal values are critical in financial strategic decision-making.

Scenario no.	Approach	Scenario	Terminal revenue growth rate	Terminal NOPAT	Value beyond the forecast horizon
1	Persistent abnormal performance	Revenue growth and margins base	3%	17%	227,49
2	Abnormal returns on constant revenue (realistic)	Revenue grows at the rate of inflation	2%	17%	176,83
3	Abnormal returns on constant revenue (non-realistic)	Essentially zero revenue growth, no	0%	17%	121,23
4	Competitive equilibrium	Margins reduced so no abnormal performance	3%	14%	0,0

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Computing estimated values:

Implementation of valuation techniques and methodologies necessitates a thorough grasp of financial modeling techniques and methodologies, as well as the capacity to read and evaluate complicated data. The aim is to arrive at a fair and accurate valuation that represents the asset's or investment's inherent value, allowing stakeholders to make educated decisions about the asset's or investment's possible risks and rewards.

	Beginning Booking book value	Value from forecast period 2021-2026	Value beyond forecast horizon (terminal value)	Total value	Value per share
Equity value (usd m)					
Abnormal profit	2255,7	2255,7	5400,0	16557,5	10,68
Abnormal profit growth	NA	-1397,6	1220,2	16557,5	10,68
Free cash flows to equity	NA	-29642,8	3200,5	16557,5	10,68
Net operating assets value					
Abnormal NOPAT	1692,3	423,1	2351,4	17372,2	NA
Abnormal NOPAT growth	NA	-701,9	565,0	17372,2	NA
Free cash flows from operations	NA	5466,0	13660,2	17372,2	NA

The equity value is calculated by adding up the values of net operating assets, investment assets, and the tax shield on debt, which total \$14,263.87 million, \$599.39 million, and \$0.22 million, respectively. These variables contribute to Nintendo's entire enterprise value, which is estimated to be \$14,863.48 million.

The enterprise value is then adjusted by deducting the value of debt and minority interests, which total \$3,460.07 million and \$0.00 million, respectively. After subtracting these liabilities and minority interests, the equity value is \$11,403.41 million. The equity value per share of \$87.72 is the estimated worth of each share of Nintendo stock.

Equity value (USD m)	
Value of net operating assets	14263,87
+ Value of investment assets	599,39
+ Present value of the tax shield on debt	0,22
Enterprise Value	14863,48
- Value of debt	-3460,07
- Value of minority interests	0,00
Equity value	11403,41
Equity value per share	\$ 87,72

Investment management analysis

Working Capital and Non-current assets management:

Working capital analysis allows Nintendo to examine its capacity to satisfy short-term obligations, manage liquidity, and support day-to-day operations. Understanding the patterns and swings in working capital enables Nintendo to make educated decisions about cash flow management, inventory levels, and credit policies, resulting in the most effective use of its current assets. Furthermore, it enables the organization to discover possible areas for

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improvement in working capital management and maximize its overall financial performance.

Analyzing non-current assets allows Nintendo to evaluate its long-term investment strategy and capital allocation decisions. Nintendo can monitor the effectiveness of its investment decisions in supporting future growth, innovation, and profitability by reviewing changes in non-current assets such as property, plant, and equipment, as well as intangible assets.

As Table 1 suggests the average number of days it takes a corporation to sell its inventory is measured by the day's inventories ratio. In Nintendo's example, this ratio climbed considerably from 48.05 days in 2019 to 39.63 days in 2020, and then to 98.08 days in 2021. This shows that Nintendo had difficulty regulating inventory levels during the COVID-19 issue. A larger number of days' inventory may imply supply chain interruptions, slower sales, or surplus inventory.

The days payables ratio is the average number of days it takes a corporation to pay its suppliers. This ratio grew for Nintendo from 52.94 days in 2019 to 52.34 days in 2020 and 72.50 days in 2021. A lengthier payment time might indicate cash flow issues or a purposeful plan to delay payments. However, if payments are severely delayed, it might strain relationships with suppliers.

The cash conversion cycle (CCC) is a comprehensive assessment of how long it takes for a company's resources (including inventories and receivables) to be converted into cash. The CCC rose from 31.68 days in 2019 to 16.04 days in 2020 and 55.54 days in 2021. A higher CCC suggests a longer cash conversion period, which can have an influence on liquidity and working capital management. Slower inventory turnover, greater receivables collection time, or payables delays may all contribute to the lengthier conversion cycle.

Table 1.

Ratio	2021	2020	2019
Operating working capital/Revenue (%)	94%	85%	88%
Net non-current operating assets/Revenue	0,06	0,06	0,07
PP&E/Revenue(%)	5%	5%	6%
Operating working capital turnover	1,07	1,18	1,14
Net non-current operating asset turnover	16,56	17,89	13,37
PP&E turnover	19,93	21,07	15,80
Trade receivables turnover	12,02	12,52	9,84
Day's receivables	29,96	28,75	36,58
Inventories turnover	3,67	9,08	7,49
Day's inventories	98,08	39,63	48,05
Trade payables turnover	4,97	6,88	6,80
Days'payables	72,50	52,34	52,94
Cash conversion cycle (in days)	55,54	16,04	31,68