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A Study On Dupont And Value-Based Analysis On Financial Performance

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Abstract: This study analyzes the company's financial performance from the perspective of DuPont analysis and value-based financial ratios from FY2018 to FY2024. The results show a period of high performance from FY2018 to FY2022 with a high return on equity (ROE) of 38.22%, high return on assets (ROA) and net profit margin (NPM), and strong value creation as depicted through Economic Value Added (EVA) and Cash Value Added (CVA). The subsequent decline, with worsening ROE (8.44% in FY2024), ROA (2.97%), and NPM (2.98%), indicates a reduction in operating and financial efficiency. Value measures such as EVA and CVA depicted volatility, with CVA turning negative in FY2024 (–₹4,807 lakh), indicating cost overruns and erosion of shareholder value. Volatile Free Cash Flow to Equity (FCFE) and the Financial Leverage Index (FLI) reflect instability in cash flow management and rising solvency concerns. Although revenue growth has been evident since FY2019, profitability has declined, highlighting inefficiencies in scaling up operations. Overall, the analysis underscores the need for greater focus on cost control, capital management, and strategic use of debt to restore financial health and improve shareholder returns.

Index Terms - DuPont Analysis, Value-Based Financial Ratios, Return on Equity (ROE), Return on Assets (ROA), Net Profit Margin (NPM), Economic Value Added (EVA), Cash Value Added (CVA), Free Cash Flow to Equity (FCFE), Financial Leverage Index (FLI), Operating Efficiency, Financial Efficiency, Revenue Growth.

I. INTRODUCTION

In today's dynamic business landscape, analyzing financial performance is crucial for strategic planning and sustainable value creation. Traditional metrics like net income and revenue growth are insufficient to fully understand performance drivers. Advanced tools such as DuPont and Value-Based Analysis offer deeper insights. DuPont Analysis breaks down Return on Equity (ROE) into Net Profit Margin, Asset Turnover, and Equity Multiplier—helping identify whether operations, asset use, or leverage drive profitability. Meanwhile, Value-Based Analysis evaluates performance beyond accounting profits by measuring returns relative to the cost of capital. Economic Value Added (EVA) shows residual income, while Cash Value Added (CVA) offers a more realistic view by using cash flows and adjusting for capital costs—essential for assessing value creation, especially in capital-intensive businesses.

2. NEED FOR THE STUDY

This research analyzes Hinduja Tech Limited's financial performance using DuPont and Value-Based Analysis to reveal deeper truths beyond normal measures. While typical measures such as ROE and ROA reveal surface-level performance, they do not indicate whether good performance arises from operational superiority or leveraging. The DuPont technique breaks down ROE into profitability, asset utilization, and leverage components, which identify sustainability risks in the high-capital-expenditure tech industry. Value-Based metrics (CVA and EVA) measure real economic value creation through identification of whether or not returns cover the costs of capital, a necessary way of analyzing R&D spend on innovative technologies such as EV and digital engineering. Altman Z-Score gauges financial stability, and consolidated DuPont analysis spots segment-wise performance gaps.

3.OBJECTIVES OF THE STUDY

- To examine Hinduja Tech's financial efficiency by decomposing ROE, ROA, and ROI through DuPont Analysis.
- To measure true economic value creation through examination of EVA and CVA, whether the company is generating returns above its cost of capital and whether its cash flows.
- To analyze liquidity and shareholder value by analyzing Free Cash Flow to Equity (FCFE) and Net Profit Margin (NPM).
- To quantify financial health and bankruptcy risk with the Altman Z-Score and Financial Leverage Index (FLI).

4. SCOPE OF THE STUDY

This research scrutinizes Hinduja Tech Limited's financial performance from 2019 to 2023 based on a quantitative analysis of audited financial statements. The study computes profitability (ROE, ROA, ROI, NPM), value creation (EVA, CVA, FCFE), and financial health (Altman Z-Score, FLI), employing DuPont methodology, with consolidated segment-wise analysis, to decompose ROE. Despite acknowledging the absence of qualitative factors and based on historical data, the study attempts to find operational strengths, inefficiencies, and the effectiveness of capital structure decisions, ultimately providing actionable recommendations to stakeholders by comparing the company's performance with industry norms to establish its ability to generate sustainable shareholder value.

5. REVIEW OF LITERATURE

Ayaba et al. (2023) applied a seven-step DuPont model to assess the financial performance of Real Estate Investment Trusts (REITs) in South Africa. The study found a strong link between return on sales and ROE, emphasizing profitability's key role. It examined how leverage and asset turnover influence financial growth and stressed the importance of operational efficiency in boosting shareholder value.

Patel and Mehta (2022) used DuPont analysis to evaluate the financial performance of major Indian IT companies, breaking down ROE into net profit margin, asset turnover, and equity multiplier. They found that high asset turnover ratios were key drivers of strong ROE and emphasized the importance of operational efficiency in the IT sector's financial performance.

(Shah, 2025): Shah evaluated the profitability performance of Tata Power and Adani Power using the DuPont model. The study dissected ROE into net profit margin, asset turnover, and equity multiplier over a ten-year period. Findings revealed significant differences in financial strategies between the two companies, with implications for their respective ROEs. The research underscores the importance of DuPont analysis in understanding the impact of operational efficiency and financial leverage on profitability in the power sector.

(Kumar & Sharma, 2021): Kumar and Sharma analyzed the financial performance of leading Indian pharmaceutical companies using DuPont analysis. They decomposed ROE into its components to assess profitability, efficiency, and leverage. The study found that high net profit margins and efficient asset

utilization were key drivers of superior ROE in the sector. The research provides insights into the financial strategies that contribute to the success of pharmaceutical companies in India.

(Rao & Kumar, 2023 The study revealed that companies with higher asset turnover ratios and net profit margins achieved superior ROE. The analysis also indicated that financial leverage played a moderate role in enhancing ROE, suggesting that textile companies should focus on improving operational efficiency and profitability while managing debt levels to optimize returns.

(Sharma & Verma, 2021): Their analysis revealed that companies with higher equity multipliers and net profit margins achieved better ROE. The study also found that asset turnover had a minimal impact on ROE, indicating that telecommunication companies rely more on financial leverage and profitability to drive returns. These findings suggest that managing debt levels and enhancing profitability are crucial for improving financial performance in the telecommunication sector.

(Chopra & Seth (2022): Chopra and Seth (2022) examined the financial performance of Indian power companies using DuPont analysis, covering the period from 2018 to 2021. Their study found that net profit margins were under pressure due to rising fuel costs and regulatory challenges. Asset turnover ratios were low, reflecting underutilization of assets, while the equity multiplier showed high financial leverage. The authors highlighted the impact of renewable energy adoption on traditional power companies. Published in the Indian Journal of Energy Economics, the study recommended that power companies focus on cost control and diversification into renewables. It also emphasized the importance of government support and policy reforms. The authors concluded that the power sector needed to innovate and adapt to changing energy dynamics to improve its financial health.

6. RESEARCH METHODOLOGY

6.1 INTRODUCTION

This study evaluates the financial performance of *Hinduja Tech Ltd* over five years using a quantitative and analytical approach focused on formula-based financial analysis. The central framework is DuPont Analysis, with additional performance indicators to provide a well-rounded view of the firm's efficiency, profitability, leverage, and value generation.

6.1.1 Research Design

An analytical research design was adopted, relying solely on pre-existing financial data without creating new datasets or applying regression/correlation techniques. The analysis uses structured formulas to interpret financial trends and relationships.

6.1.2 Type of Research

The study is quantitative, using statistical and value-based computations to analyze performance over a defined time frame.

6.1.3 Research Approach

This research is **empirical**, based on real-world financial statements prepared under **IFRS**, ensuring objective and standardized data.

6.1.4 Research Framework

The **DuPont Analysis Framework** is used to break down **ROE** into:

- Net Profit Margin
- Asset Turnover
- Financial Leverage

Additional metrics were also used:

- **ROA** (Return on Assets)
- **ROI** (Return on Investment)
- **EVA** (Economic Value Added)
- **CVA** (Cash Value Added)
- **FCFE** (Free Cash Flow to Equity)
- **FLI** (Financial Leverage Index)
- **Altman's Z-Score**
- **Consolidated DuPont Summary** (Averaging ROE, ROA, ROI, NPM, and Asset Turnover)

6.1.5 Data Collection

- **Secondary Data**: Five years of audited financial statements from *Hinduja Tech Ltd*, including:
  - Income Statements
  - Balance Sheets
  - Cash Flow Statements (used optionally for some metrics)
- **Data Extracted**: Net Profit, EBIT, Total Assets, Shareholder Equity, Revenue, Operating Cash Flow, CapEx, etc.
- Return on Equity (ROE)=(Net Profit / Average Shareholder's Equity) × 100
  - AverageEquity = Equity at Year Start + Equity at Year End / 2
  - Absolute Change = Current Year Value - Previous Year Value
  - Percentage Change = (Absolute Change / Previous Year Value) × 100
  - **Eva (Economic Value Added)**

    EVA = NOPAT − (WACC × Invested Capital)

    NOPAT = Net Operating Profit After Tax

    WACC = Weighted Average Cost of Capital

    Invested Capital = Total Debt + Total Equity − Non-Operating Assets

  - **Breakdown of Components:**

    NOPAT = EBIT × (1 − Tax Rate) (Represents after-tax operating profit)

    WACC = (Cost of Equity × Equity %) + (Cost of Debt × Debt % × (1 − Tax Rate))

    Invested Capital = Total Assets − Non-Interest-Bearing Current Liabilities (Capital actually used to generate profits)

  - **RETURN ON INVESTMENT**

    ROI = EBIT / (Total Debt + Shareholders' Equity)× 100

- **EBIT (Earnings Before Interest and Taxes) Formula:**

  EBIT=Net Profit+Interest Expense+Tax Expenses

- **CASH VALUE ADDED**

  CVA = Operating Cash Flow (Op. CF) - Capital Expenditure (CapEx) - Capital Charge

- **FREE CASH FLOW EQUITY**

  FCFE= Net Income + Depreciation + Decrease in Working Capital – Capex

- **FINANCIAL LEVERAGE INDEX**

  FLI = (Net Income ÷ EBIT) × (Total Assets ÷ Total Equity)

- **ALTMAN'S Z SCORE**

  Z=1.2(X1) + 1.4(X2) + 3.3(X3) + 0.6(X4) + 1.0(X5)

  Z= 1.2 × (Working Capital ÷ Total Assets) + 1.4 × (Retained Earnings ÷ Total Assets) + 3.3 × (EBIT ÷ Total Assets) + 0.6 × (Equity ÷ Total Liabilities) + 1.0 × (Sales ÷ Total Assets)

- **CONSOLIDATED DUPONT ANALYSIS**

  Average of all the ROE, ROA, ROI, NPM, and ASSET TURNOVER

7. DATA ANALYSIS AND INTERPRETATION

ECONOMIC VALUE ADDED

INFERENCES:

EVA saw a significant increase in the first four years, showing improvement in value creation for the shareholders. However, the decline in EVA in FY2023-2024 suggests a reduction in value added by the company despite an increase in invested capital, which indicates potential inefficiencies or lower returns on the higher capital base.

Economic Value Added (EVA)					
Year	**NOPAT (₹ Lakhs)**	**Invested Capital (₹ Lakhs)**	**WACC (2%)**	**Capital Charge (₹ Lakhs)**	**EVA (₹ Lakhs)**
2018-2019	1507.89	10,754.15	2%	215.08	**1,292.81**
2019-2020	1724.16	13,889.00	2%	277.78	**1,446.38**
2020-2021	463.93	13,968.78	2%	279.38	**184.55**
2021-2022	2,604.00	18,834.05	2%	376.68	**2,227.32**
2022-2023	3,071.82	61,209.96	2%	1,224.20	**1,847.62**
2023-2024	2921.7	64805.88	2%	1,296.12	**1,625.62**

CASH VALUE ADDED

Cash Value Added (CVA)				
Year	**Op. CF (₹ Lakhs)**	**CapEx (₹ Lakhs)**	**Capital Charge**	**CVA (₹ Lakhs)**
2018-2019	-218.09	297.62	537.71	**-1,053.42**
2019-2020	359.99	666.56	694.45	**-1,001.02**
2020-2021	4,014.84	843.25	698.44	**2,473.15**
2021-2022	3,751.33	874.37	941.70	**1,935.26**
2022-2023	2,860.20	1,526.72	3,060.50	**-1,727.02**
2023-2024	1484.91	3051.94	3240.294	**-4,807.32**

INFERENCES:

The experimental and strategy of investing a lot of money has been realized to be unfeasible and then the tedious process of value recovery became necessary in order to bring the company back to its feet that were disciplined capital budgeting, efficiency on the operational level, and the optimization of the company's capital structure.

CONSOLIDATED DUPONT ANALYSIS				
Year	**ROE (%)**	**ROA (%)**	**ROI (%)**	**NPM (%)**
2018-2019	34.77	13.3	35.4	6.81
2019-2020	33.03	12.94	22.16	7.05
2020-2021	4.68	1.91	6.28	1.41
2021-2022	38.22	17.2	26.51	11.02
2022-2023	13.89	5.24	9.2	5.23
2023-2024	8.44	2.97	12.48	2.98

CONSOLIDATED DUPONT ANALYSIS

- Return on Equity (ROE)=(Net Profit / Average Shareholder’s Equity) × 100
- ROA = (Net Profit / Average Total Assets) × 100
- ROI = EBIT / (Total Debt + Shareholders' Equity)× 100

INFERENCES:

The significant drop in ROE (38.22% to 8.44%) and NPM (11.02% to 2.98%) signals reduced profitability and returns. This trend highlights the need for strategic reorientation through better cost management, revenue growth, and asset utilization.

FREE CASH FLOW EQUITY

FCFE = Net Income + Depreciation + Decrease in Working Capital - Capital Expenditure

FCFE					
Year	**Net Income**	**Depreciation**	**Working Capital**	**Capex**	**FCFE**
2018-2019	1,430.02	297.62	(233.46)	305.54	**1,655.56**
2019-2020	1,595.43	666.56	678.24	217.59	**1,366.16**
2020-2021	265.72	843.25	(3,467.39)	3,007.34	**1,569.02**
2021-2022	2,821.53	874.37	3,606.32	950.33	**860.75**
2022-2023	2,049.76	1,526.72	2,801.86	3,007.34	**2,232.72**
2023-2024	1,845.76	3,051.94	(7,728.75)	5,320.55	**7,305.90**

INFERENCES:

The data highlights that strong earnings do not guarantee positive FCFE unless supported by efficient working capital management and controlled capital spending.

ALTMAN'S SCORE

ALTMAN SCORE							
Year	**Working Capital**	**Total Assets**	**Retained Earnings**	**EBIT (PBT)**	**Book Value of**	**Total Liabilities**	**Revenue**
2018-2019	₹ 2,252.47	₹ 10,754.15	₹ -11,275.97	1,508.71	₹ 4,119.03	₹ 6,635.12	₹ 21,019.02
2019-2020	₹ 3,034.55	₹ 13,908.09	₹ -9,847.02	1,743.34	₹ 5,547.98	₹ 8,359.50	₹ 22,616.65
2020-2021	₹ 4,065.47	₹ 13,968.78	₹ -9,578.50	494.34	₹ 5,816.50	₹ 8,152.28	₹ 18,898.34
2021-2022	₹ 6,604.98	₹ 18,834.05	₹ -6,618.49	2,605.63	₹ 8,946.64	₹ 9,887.41	₹ 25,614.65
2022-2023	₹ 10,707.19	₹ 59,462.45	₹ 208.76	3,407.57	₹ 20,568.5	₹ 48,893.89	₹ 39,163.00
2023-2024	₹ 2,942.77	₹ 64,805.88	₹ 2,119.96	4,927.27	₹ 23,146.1	₹ 41,659.77	₹ 61,931.40

Z SCORE							
Year	**X_1 (WC/TA)**	**X_2 (RE/TA)**	**X_3 (EBIT/TA)**	**X_4 (Equity/TL)**	**X_5 (Sales/TA)**	**Z-Score**	**Interpretation**
2018-2019	**0.209**	**-1.049**	**0.140**	**0.621**	**1.955**	**₹ 1.57**	**Distress Zone**
2019-2020	**0.218**	**-0.708**	**0.125**	**0.664**	**1.626**	**₹ 1.71**	**Distress Zone**
2020-2021	**0.291**	**-0.686**	**0.035**	**0.713**	**1.353**	**₹ 1.29**	**Distress Zone**
2021-2022	**0.351**	**-0.351**	**0.138**	**0.905**	**1.360**	**₹ 2.29**	**Grey Zone**
2022-2023	**0.180**	**0.004**	**0.057**	**0.421**	**0.659**	**₹ 1.32**	**Distress Zone**
2023-2024	**0.045**	**0.033**	**0.076**	**0.556**	**0.956**	**₹ 1.64**	**Distress Zone**

Z= 1.2 × (Working Capital ÷ Total Assets) + 1.4 × (Retained Earnings ÷ Total Assets) + 3.3 × (EBIT ÷ Total Assets) + 0.6 × (Equity ÷ Total Liabilities) + 1.0 × (Sales ÷ Total Assets)

- Z > 2.99: Safe zone, low bankruptcy risk.
- 1.81 < Z < 2.99: Gray zone, moderate bankruptcy risk.
- Z < 1.81: Distress zone, high bankruptcy risk**.**

FINANCIAL LEVERAGE

Financial Leverage Index (FLI)					
Year	**Net Income**	**EBIT**	**Total Assets**	**Equity**	**FLI**
2018-2019	1,430.02	**1,508.71**	13,889.17	5,547.98	0.89
2019-2020	1,595.43	1,743.34	13,968.78	5,816.50	0.92
2020-2021	265.72	494.34	18,834.05	8,946.64	0.62
2021-2022	2,821.53	2,605.63	59,462.45	20,275.32	2.05
2022-2023	2,049.76	3,407.57	61,209.96	23,146.16	1.12
2023-2024	1,845.76	4,927.27	64,805.88	35,218.42	0.59

INFERENCES:

Despite EBIT reaching **₹4,927.27 Cr in 2023-2024**, the FLI fell to **0.59**, indicating the company struggled to convert operational gains into net income efficiently.

8. SUMMARY OF FINDINGS

The company, despite achieving high EBIT in FY2024, has seen a significant decline in its financial performance across key metrics. ROE, ROA, and NPM have dropped sharply since FY2022, indicating reduced profitability and efficiency. ROI has been volatile but showed slight recovery in FY2024. EVA and CVA reflect inconsistent and weakening value creation, with CVA turning negative due to rising costs. FCFE has been erratic, influenced by capex and working capital changes. While revenues have doubled since FY2019, the company has struggled to maintain margins, highlighting inefficiencies at scale. The low Financial Leverage Index (FLI) and negative CVA raise concerns about financial stability and risk exposure.

9. SUGGESTIONS

- Address ROA decline by optimizing asset use and divesting non-core holdings.
- Reduce FCFE volatility by tightening working capital management.
- Boost ROE via share buybacks or dividend adjustments.
- Align Capex with ROI trends by prioritizing high-yield projects.
- Enhance NPM by revamping pricing strategy and cost structures.

10. CONCLUSION

The analysis of the company's financial performance through both DuPont and Value Added approaches offers a well-rounded view of its profitability drivers and value creation efficiency for stakeholders. DuPont analysis dissects Return on Equity to reveal how profit margins, asset utilization, and financial leverage interact to influence shareholder returns. In parallel, Value Added analysis assesses the economic value generated through operations, offering insights into benefits delivered to stakeholders beyond shareholders. Together, these frameworks provide a more in-depth understanding of the firm's financial condition and capacity to create value. For a more robust evaluation, future research could explore long-term trends and benchmark the company's performance against industry peers to place its financial standing in a broader context.

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