A STUDY ON USE THE CAPITAL ASSET PRICING MODEL TO ASSESS THE PORTFOLIO OF A COMPANY

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Abstract - Portfolio investing, a compelling subject for businesses and individuals, revolves around stocks as a high-return but inherently risky financial instrument. This study delves into the characteristics of stocks, emphasizing the need for investors to comprehend stock dynamics and trading approaches. Amid diverse investment avenues, the pursuit of positive returns is universal, acknowledging the inherent risk in any investment. Notably, equity investments are perceived as riskier than debentures and bonds. Risk is dissected into systematic and unsystematic categories, with the former being uncontrollable and the latter diversifiable. The CAPM functions as a predictive instrument, shedding light on the connection between the risk of an asset and its anticipated return. Utilizing analytical research and secondary data, this study synthesizes information from various sources, offering insights into portfolio management.

Keywords: Capital Asset Pricing Model, portfolio, risk, return, investment.

1.INTRODUCTION

Investors have numerous investment options, each with varying levels of risk and return. Generally, equity investments are riskier than bonds or debentures.Risk can be classified into systematic risk, which cannot be eliminated through diversification (such as interest rate risk), and unsystematic risk, which pertains to individual stocks and can be reduced through diversification. According to the Capital Asset Pricing Model (CAPM), in an ideal market, securities are accurately priced, providing returns proportional to their risk, as measured by "beta." The Capital Market Line (CML) pertains to overall market risk, while the Security Market Line (SML) depicts non-diversifiable market-related risk.A portfolio comprises a collection of securities, allowing investors to tailor their investments to their risk preferences. Efficient portfolios are those with returns positively correlated with the market portfolio, offering the optimal risk-return trade-off.

OBJECTIVES OF THE STUDY

- To understand CAPM and its uses in financial management.
- Helps to maximizes one's returns and minimizes risks.
- To understand the financial ratios.
- Evaluating portfolio performance involves examining the relationship between risk and return for a particular security or asset.

LIMITATIONS OF THE STUDY

- The rate of return can be conveniently calculated for research purposes using the formula: (Ending price - Beginning price) / Beginning price, without factoring in dividends.
- No taxes or transaction costs are considered in the buying and selling of assets.
- Investors are operating within a three-period time horizon, spanning the years 2007, 2008, and 2009.
- All investments are divisible to an infinite extent, allowing for the purchase or sale of fractional shares of any asset or portfolio.
- There are no considerations for inflation or changes in interest rates.
- Investors are assumed to be price-takers in this scenario.
- Efficient portfolios are held by investors, acknowledging that higher expected returns are associated with increased risk.

2. RESEARCH METHODOLOGY

Research design: Analytical research
Analytical research: The researcher has to use facts or information already available and analyze these to make a critical evaluation of the material.

Nature of data :Secondary data
Secondary data: Data, which have already been collected by someone else and which have already been passed through the statistical process.
Tools used for presentation: Tools used for this study are Asset turnover ratio, inventory turnover ratio, receivables turnover ratio, payables turnover ratio, current ratio, quick ratio, cash ratio, debt to-assets ratio, debt-to-capital ratio, debt-to-equity ratio, interest coverage ratio, gross profit margin, operating profit margin, net profit margin, return on equity, return on assets and return on investment.

$$R_i = R_f + \beta_i * (R_m - R_f)$$

- r_f → Risk-Free Rate
- β → Beta
- r_m → Market Return
- $(r_m - r_f)$ → Equity Risk Premium (ERP)

3. DATA ANALYSIS AND INTERPRETATION

Financial ratios, which are calculated from numerical data within financial statements, provide valuable insights into the overall health of a company. They evaluate liquidity, profitability, and other critical aspects.Grouped into Activity, Liquidity, Solvency, and Profitability categories, they provide a holistic view. Activity Ratios evaluate asset efficiency, Liquidity Ratios gauge short-term solvency, Solvency Ratios measure long-term stability, and Profitability Ratios indicate profit generation ability. Utilizing these ratios, stakeholders can make well-informed decisions concerning investment, lending, and other financial matters., and strategic planning, thus enhancing financial analysis and decision-making processes.

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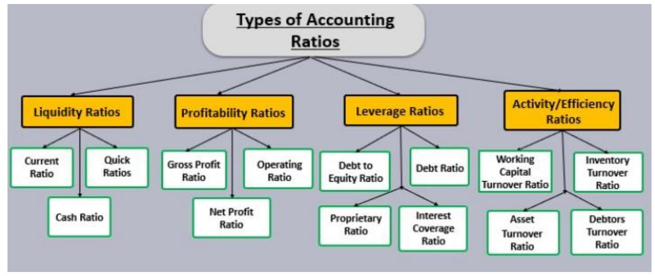
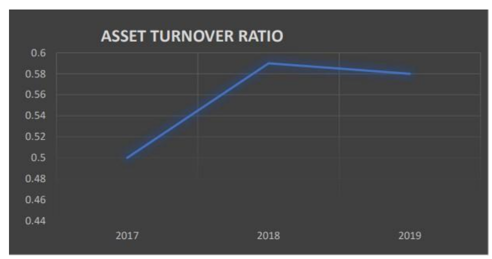


Fig. 1. Types of Accounting Ratios

A. ACTIVITY RATIO:

1.ASSET TURNOVER RATIO: The asset turnover ratio gauges a company's ability to generate revenue in relation to the value of its assets, serving as an indicator of how efficiently the company utilizes its assets for sales or revenue generation.

YEAR	ASSET TURNOVER RATIO
2017	0.5
2018	0.59
2019	0.58



INTERPRETATION: The asset turnover ratio of Blue Yonder fluctuated over three years, indicating inefficient asset utilization for generating sales. Ratios were 0.5 (2017), 0.59 (2018), and 0.58 (2019).

2. INVENTORY TURNOVER RATIO:

The inventory turnover ratio indicates the frequency with which a company sells and replenishes its inventory within a specific timeframe. By dividing the days in the period by the inventory turnover formula, a company can determine the time it takes to sell its existing inventory. This calculation aids businesses in making informed decisions regarding pricing, manufacturing, marketing, and the acquisition of new inventory.

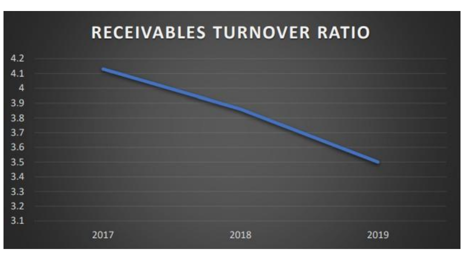
YEAR	INVENTORY TURNOVER RATIO
2017	4.86
2018	10.05
2019	37.85

INTERPRETATION: The inventory turnover ratio of Blue Yonder showed a significant increase over three years, indicating improved inventory management. Ratios were 4.86 (2017), 10.05 (2018), and 37.85 (2019).

3.RECEIVABLES TURNOVERATIO:

The accounts receivable turnover ratio evaluates a company's effectiveness in receiving payments from customers, reflecting its credit management efficiency and the pace of debt collection. Also referred to as the receivables turnover ratio, it offers insights into the management of short-term debts.

YEAR	RECEIVABLES TURNOVER RATIO
2017	4.13
2018	3.86
2019	3 .5

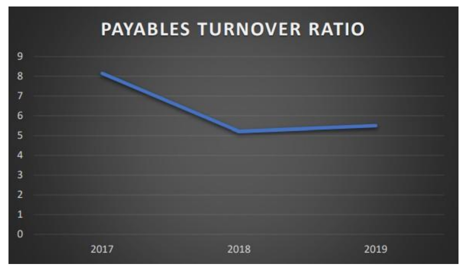


INTERPRETATION :The receivables turnover ratio of Blue Yonder decreased over three years, indicating a lengthening average collection period. Ratios were 4.13 (2017), 3.86 (2018), and 3.5 (2019).

4. PAYABLES TURNOVER RATIO:

The inventory turnover ratio reveals the frequency with which a company sells and replenishes its inventory within a specific timeframe. By dividing the days in the period by the inventory turnover formula, a company can determine the duration it takes to sell its existing inventory. This calculation assists businesses in improving decisions related to pricing, manufacturing, marketing, and procuring new inventory.

YEAR	PAYABLES TURNOVER RATIO
2017	8.15
2018	5.21
2019	5.5

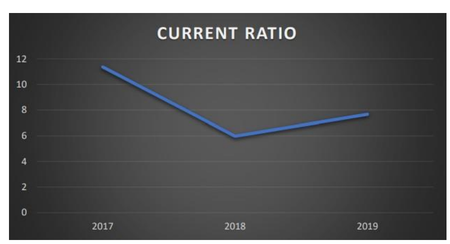


INTERPRETATION:The payables turnover ratio of Blue Yonder fluctuated over three years, suggesting the company is taking longer to settle its supplier payments compared to previous periods. Ratios were 8.15 (2017), 5.21 (2018), and 5.5 (2019).

B. LIQUIDITY RATIOS

1.CURRENT RATIO: The current ratio, classified as a liquidity ratio, assesses a company's capacity to meet short-term obligations, specifically those due within a year. This metric provides insight to investors and analysts regarding the company's proficiency in utilizing current assets from its balance sheet to fulfill current debt and other payable obligations.

YEAR	CURRENT RATIO
2017	11.39
2018	5.98
2019	7.67



INTERPRETATION: The current ratio of Blue Yonder fluctuated over three years, suggesting varying levels of liquidity. A rising ratio may indicate growth, while a decline may suggest the opposite. Ratios were 11.39 (2017), 5.98 (2018), and 7.67 (2019), reflecting alterations in the financial status of the company.

2. QUICK RATIO:

The quick ratio serves as a gauge of a company's short-term liquidity status, evaluating its capability to fulfill immediate obligations using its most liquid assets.

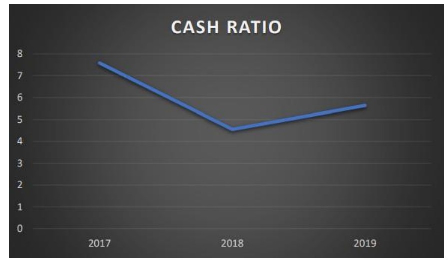
YEAR	QUICK RATIO
2017	10.21
2018	5.92
2019	7.44

INTERPRETATION: The quick ratio of Blue Yonder fluctuated over three years, reflecting changes in financial stability. Increasing ratios suggest sustained growth, while fluctuating or decreasing ratios may indicate financial trouble or instability. Ratios were 10.21 (2017), 5.92 (2018), and 7.44 (2019), impacting the company's overall financial health.

3. CASH RATIO:

The cash ratio assesses a company's liquidity by comparing its total cash and cash equivalents to its current liabilities. This ratio indicates the company's capacity to settle short-term debts using readily available cash or easily marketable securities. Creditors find this information valuable in determining the amount of money, if any, they would be willing to lend to the company.

YEAR	CASH RATIO
2017	7.58
2018	4.55
2019	5.64

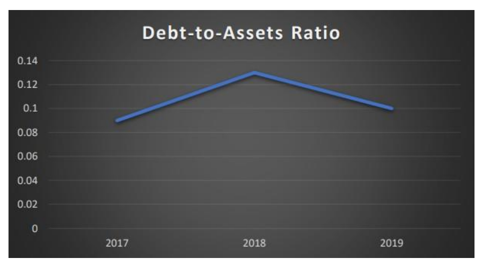


INTERPRETATION: Over the course of three years, Blue Yonder's cash ratio experienced fluctuations, reflecting its ability to fulfill short-term liabilities using cash and cash equivalents. The ratios stood at 7.58 in 2017, 4.55 in 2018, and 5.64 in 2019, indicating changes in the company's liquidity and its capability to meet financial obligations.

C. SOLVENCY RATIOS

1.DEBT-TO-ASSETS RATIO: The total-debt-to-total-assets ratio is a leverage metric that expresses the total debt in relation to the total assets of a company. This ratio facilitates comparisons of leverage levels among various companies.

YEAR	Debt-to-Assets Ratio
2017	0.09
2018	0.13
2019	0.1

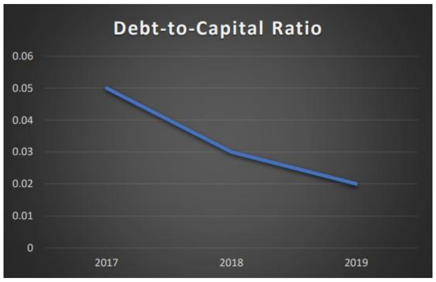


INTERPRETATION: Blue Yonder's debt-to-asset ratio varied over the course of three years, signaling shifts in financial risk. A lower ratio implies increased financial security. The ratios stood at 0.09 (2017), 0.13 (2018), and 0.1 (2019), illustrating the company's management of debt and financial robustness.

2. DEBT-TO-CAPITAL RATIO:

The debt-to-capital ratio serves as a gauge of a company's financial leverage. This ratio is computed by dividing the company's interest-bearing debt (encompassing both short- and long-term liabilities) by the total capital. Total capital comprises all interest-bearing debt and shareholders' equity, encompassing elements like common stock, preferred stock, and minority interest.

YEAR	Debt-to-Capital Ratio
2017	0.05
2018	0.03
2019	0.02

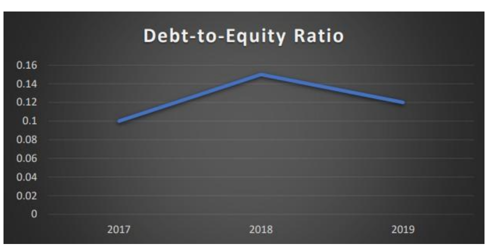


INTERPRETATION: Over a three-year period, Blue Yonder observed a decline in its debt-to-capital ratio, signaling a decrease in the use of debt to finance its operations. A high ratio implies significant reliance on debt, whereas a low ratio suggests dependence on shareholders' equity or current revenues. The ratios were 0.05 in 2017, 0.03 in 2018, and 0.02 in 2019, reflecting shifts in the company's capital structure and financial approach.

3. DEBT-TO-EQUITY RATIO:

The debt-to-equity (D/E) ratio is determined by dividing a company's total liabilities by its shareholder equity, and this information can be found on the company's balance sheet in its financial statements.

YEAR	Debt-to-Equity Ratio
2017	0.1
2018	0.15
2019	0.12

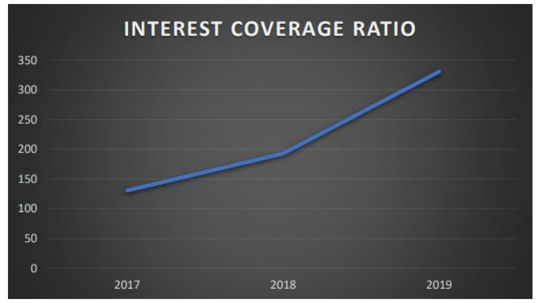


INTERPRETATION: The debt-to-equity ratio of Blue Yonder fluctuated over three years, indicating changes in its financing structure. A high ratio suggests effective debt management and leveraging for higher equity returns, while a low ratio signifies minimal debt financing. Ratios were 0.1 (2017), 0.15 (2018), and 0.12 (2019), impacting the company's financial risk and capital structure.

4. INTEREST COVERAGE RATIO:

The interest coverage ratio, classified as both a debt and profitability metric, assesses a company's ability to comfortably meet interest obligations on its outstanding debt. To calculate the interest coverage ratio, one can divide the company's earnings before interest and taxes (EBIT) for a specific period by the corresponding interest payments due within that period.

YEAR	INTEREST COVERAGE RATIO
2017	130.53
2018	192.87
2019	330.77

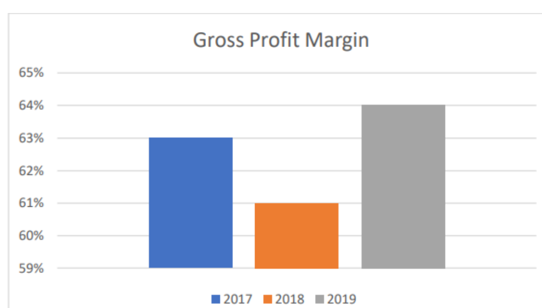


The interest coverage ratio of Blue Yonder Surged noticeably over the span of three years, showcasing an enhanced capability to fulfill interest payments on outstanding debt. Ratios were 130.53 (2017), 192.87 (2018), and 330.77 (2019), reflecting enhanced financial health and debt servicing capabilities.

4. PROFITABILITY RATIOS

1.GROSS PROFIT MARGIN : The gross profit margin serves as a metric for evaluating a company's financial well-being and business strategy by indicating the money retained from sales after subtracting the cost of goods sold. This margin is frequently represented as a percentage of sales and is sometimes referred to as the gross margin ratio.

YEAR	Gross Profit Margin
2017	63%
2018	61%
2019	64%

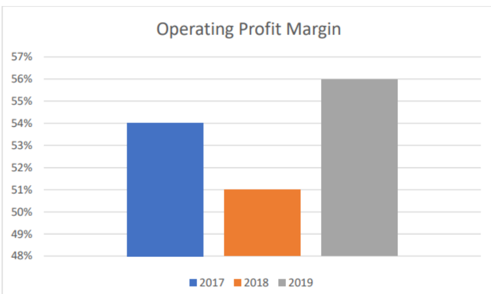


INTERPRETATION: The gross profit margin ratio of Blue Yonder fluctuated over three years, indicating variability in profitability.A consistent margin is favorable, but a diminished margin could arise from either decreased revenue in comparison to sales volume or an increased cost of goods sold (COGS). Ratios were 63% (2017), 61% (2018), and 64% (2019), reflecting changes in the company's revenue and cost structure.

2. OPERATING PROFIT MARGIN:

The operating margin gauges the profitability of a company by assessing the profit generated per dollar of sales, deducting variable production costs like wages and raw materials but excluding interest or tax payments. This margin is computed by dividing a company's operating profit by its net sales.

YEAR	Operating Profit Margin
2017	54.5%
2018	51%
2019	56%

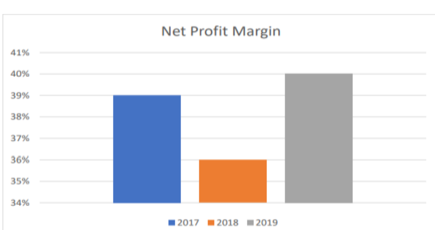


INTERPRETATION: The operating profit margin of Blue Yonder fluctuated over three years, suggesting variability in sales performance. A declining ratio indicates a decrease in sales. Ratios were 54.5% (2017), 51% (2018), and 56% (2019), reflecting changes in the operational effectiveness and revenue generation of the company

3. NET PROFIT MARGIN:

The net profit margin signifies the percentage of revenue that translates into net income or profit. It is calculated as the ratio of net profits to revenues for a company or business segment. Typically expressed as a percentage or in decimal form, the net profit margin illustrates the portion of each dollar in revenue that contributes to the company's profit.

YEAR	Net Profit Margin
2017	39%
2018	36%
2019	40%

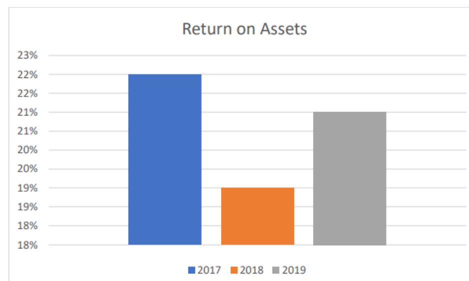


INTERPRETATION : The net profit margin of Blue Yonder fluctuated over three years, indicating variability in performance and profitability levels. A decline in margin signifies a decrease in overall profitability. Ratios were 39% (2017), 36% (2018), and 40% (2019),indicating alterations in the company's capacity to generate profits after considering all expenses.

4. RETURN ON ASSETS:

Return on Assets (ROA) serves as a measure of a company's profitability in relation to its total assets. This percentage-based indicator provides managers, investors, or analysts with insights into the efficiency of a company's management in utilizing its assets to generate earnings..

YEAR	Return on Assets
2017	22%
2018	19%
2019	21%

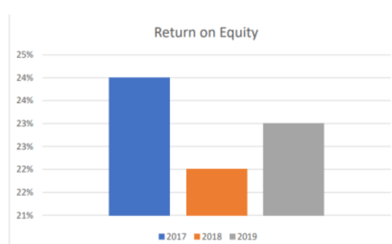


INTERPRETATION : The return on assets (ROA) of Blue YonderVaried over a three-year period, indicating fluctuations in the company's capacity to generate income from its assets.. A low percentage indicates inefficient asset utilization. ROA ratios were 22% (2017), 19% (2018), and 21% (2019), indicating alterations in the company's profitability in relation to its asset foundation.

5. RETURN ON EQUITY:

Return on Equity (ROE) is a financial performance metric obtained by dividing net income by shareholders' equity. As shareholders' equity represents a company's assets minus its debt, ROE can be viewed as the return on net assets.

YEAR	Return on Equity
2017	24%
2018	22%
2019	23%



INTERPRETATION :Blue Yonder's return on equity showed fluctuations over a three-year period, reflecting variability in the company's capability to generate returns for its shareholders.. Increased debt can boost ROE by reducing equity. ROE ratios were 24% (2017), 22% (2018), and 23% (2019), reflecting changes in profitability relative to shareholder equity.

6. RETURN ON INVESTMENT:

Return on Investment (ROI) serves as a performance metric employed to assess the effectiveness of an investment or to compare the efficiency of various investments. It aims to directly quantify the return on a specific investment in relation to its cost. The calculation involves dividing the benefit or return of an investment by its cost, and the outcome is presented as a percentage or ratio.

YEAR	Return on Investment
2017	23%
2018	21%
2019	23%

INTERPRETATION: Blue Yonder's return on investment (ROI) experienced fluctuations over a three-year period, suggesting changes in the company's capacity to generate returns from its investments.Fluctuations may result from insufficient decision-making time. ROI ratios were 23% (2017), 21% (2018), and 23% (2019), reflecting changes in the efficiency of investment utilization.

4 .FINDINGS

• The current, quick, and cash ratios exhibit a negative influence, suggesting that the company's financial stability is compromised or facing difficulties.

• The company's Gross Profit, Operating Profit, and Net Profit margins have risen compared to the past two years, indicating a positive trend as they maintain reasonable pricing for their sales.

• The ROI is balanced in the first and last year as it is properly decided whereas the ROA and ROE is high in the first year.

• The asset turnover ratio, debt to asset and debt to equity ratio suggests that the company isn't leveraging.the assets efficiently, results in a negative impact.

• The company's Interest coverage and inventory turnover ratio serves as a positive indicator of efficient inventory management but it may not be true in all the cases, that means it is showing a good sign.

• The Receivables, Payables and Debt to capital ratio show a negative impression to the suppliers and it is not a good sign.

5.CONCLUSION

When assessing general market conditions, the study suggests that investors seeking higher returns may opt for securities with below-market risk. Through effective portfolio management, investors can achieve a positive rate of return.

6.SUGGESTIONS AND RECOMMENDATIONS

• The company is paying its debts properly, so that it creates a positive impression to the investors.

• The treatment towards assets is not bad and the assets can be invested more in an appropriate manner so that the return on assets will be high.

• In almost every case the company’s ratios fluctuate, so I suggest that sufficient care must be taken.

• Both internally and externally the company’s position is perfectly alright, for better solutions they can interact with the top-level managers. • the company should take care of its receivables and payable as they are taking longer to pay off its suppliers than in previous years.

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