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MULTI-DIMENSIONAL PERFORMANCE MAPPING AND MARKET POSITIONING

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ABSTRACT

This paper analyzes how a company's financial strengths at home translate in market valuation in the Indian FMCG sector. The Piotroski score-a key fundamental indicator of valuation-is taken as the independent variable and market capitalization-an indicator of market valuation as the dependent variable and the sample set of companies includes the entire range, right from the stuck large caps to the turn-around mid caps. The quadrant analysis reveals a 'value gap' in such a way that a few fundamentally good companies are under-valued by the market. We believe that pricing power and distribution network is more of a determinant for the market leader mega-cap companies in the FMCG space than feel good financial numbers. However we find that it works very well for the financially strong companies in the SME space and the Piotroski score can be a good fundamental parameter tool for investors who want to blend fundamental and market valuation.

KEYWORDS: FMCG Sector, Piotroski F-Score, Financial Health Analysis, Market Valuation, Value Investing and Corporate Financial Performance

INTRODUCTION

Given the increasingly competitive nature of the business environment, organizational performance measurement calls for multidimensional framework that is currently lacking with organizations fulfilling solid financial performance and healthy financial position, and still keeping a competitive presence in the market. Therefore, academia and industry have begun to promote multidimensional theories of performance measurement.

Multi-Dimensional Performance Mapping (MDPM) is a comprehensive approach for evaluating institutional performance by integrating financial performance indicators, financial health indicators and indicators of positioning in the market. Financial performance indicators such as profitability, ROA and Earnings growth indicate the capacity of the institution to creation of wealth. Financial health indicators (such as liquidity, long term solvency and adequacy of cash flows) show the risks involved in the long term stability of the organization. Indicators of market positioning include, market share, client satisfaction and brand strength.

The theoretical base for this approach is based on the Balanced Scorecard developed by Kaplan and Norton (1992), indicating the importance of using both financial and non-financial performance indicators, and the stakeholder theory in which the organization's performance has to be separated and assessed from multiple perspectives and not only using only financial indicators (Freeman, 1984). This combination of perspectives allows managers, investors and policy makers to recognize better opportunities, threats, strength and weaknesses under the company's behavior.

Thus, this research aims to explore the importance of Multi-Dimensional Performance Mapping in assessing company performance using financial health indicators and market position measurements, laying a solid foundation for strategic decision and sustained development.

In the literature, the traditional performance evaluation measures used to include financial performance indicators, such as profitability, ROI and residual income. However, in the fast-changing and extremely competitive business environment, financial information cannot single-handedly measure the overall performance of an organization. A company might showcase robust profits in the short-run, yet at the same time, experience deteriorating customer loyalty or weakened financial strength or diminishing market competitiveness. As a result, academics and practitioners tend to use the Multi-Dimensional Performance Mapping (MDPM) to provide a holistic picture of organizational performance by combining financial performance, financial health and market position.

Market positioning is also critical since firm sustainability depends on factors besides profit outcomes; in particular, success hinges on the firm's ability to generate a sustainable competitive advantage, retain customers, strengthen its brand, and grow its market share. Examining all of these factors collectively allows stakeholders to more reliably assess both a firm's internal firm efficiency and external competitiveness.

RELEVANCE FOR RESEARCH

The utility of Multi-Dimensional Performance Mapping and Market Positioning is ultimately in a holistic, reliable and theoretically rationale assessment of corporate performance. It allows scholars using multidimensional approach to derive comparable, lump-sum performance indices, benchmark firm-to-firm on multiple metrics, explore the linkages between financial efficiency and marketplace competitiveness, use the performance result to better inform managerial and investment decision, enabling intensive further quantitative empirical research, and assess corporate sustainable value creation over the long-term horizon. The fact that aligning to the BSC, TBL and IR, the proposed multi-dimensional performance analysis has practically feasible utility as a comprehensive, realistic and theoretically systematic tool for contemporary academic research as well as business decision-making and strategy formulation.

CONCEPTUAL FRAMEWORK

Multi-Dimensional Performance Mapping is a tool that assesses a firm's performance using multiple dimensions instead of relying only on profit or revenue. It integrates:

- **Financial Performance Indicators**
- **Financial Health Indicators**
- **Market Positioning Indicators**

to provide a comprehensive view of organizational success.

Financial Performance Indicators These measure the firm's profitability and operational efficiency. Return on Assets (ROA) Return on Equity (ROE) Net Profit Margin Earnings Per Share (EPS) Revenue Growth Rate	Purpose Asses profitability. Assess the effectiveness of measures. * Assess shareholder value creation.
Financial Health Indicators These determine the firm's ability to meet short-term and long-term obligations. Current Ratio Quick Ratio Debt-to-Equity Ratio Interest Coverage Ratio Cash Flow Adequacy	Purpose Liquidity and solvency ratios. To assess the financial health of an organization. To recognize high potential financial risks.
Market Positioning Indicators These measure competitive strength and market presence. Market Share Brand Value Customer Satisfaction Index Customer Retention Rate Market Growth Rate	Purpose Identify your competitive advantage. Evaluate customer loyalty. Assessing leadership position in the market.

Another illustration, this time of an ideal company, is a very profitable one with high ROE and operating margins. Such a company should be investing the profits into bolstering its brand and institutionalizing customer satisfaction. As its market share expands, profits rise, boosting the company's cash flows and debt exception capacity. This concept, that all three measures should be analyzed collectively for added insights, is a 'no-brainer.'

Together, these Financial Performance Indicators, Financial Health Indicators and Market Positioning Indicators offer a broad evaluation of an organization's overall financial situation and ability to succeed. Financial performance metrics would include such measures as ROA, ROE, Net Profit Margin, EPS and Revenue Growth all of which determine level of profitability, efficiency of operations and return to shareholders. Financial health metrics would include Current Ratio, Quick Ratio, Debt to Equity Ratio, Interest Coverage Ratio and Cash Flow Adequacy all of which would focus on the liquidity of the organization, its ability to be solvent and to support its financial commitments. Finally, Market Positioning measures such as Market Share, Brand Value, Customer Satisfaction Index, Customer Retention Rate and Market Growth Rate would focus on the competitiveness of the organization, its popularity with customers and general long-term stability.

A comprehensive assessment combining all three dimensions allow managers and stakeholders to make rational decision, identify strength and weakness, mitigate risk, and develop strategy for sustainable growth. Therefore, multidimensional performance measurement has become an essential part of both corporate governance and financial analysis nowadays.

The companies selected are analyzed based on five significant financial ratios: Market Capitalization (Mar_Cap), Debt_Eq, CMP_BV, ROCE and OPM. These variables reflect the financial size, leverage, estimation of market value, efficiency of deployment of capital and operating margin respectively of the companies.

LITERATURE REVIEW

Kaplan and Norton (1992) Kaplan and Norton proposed the Balanced Scorecard (BSC) framework, arguing that it is wrong to evaluate an organization performance only based on financial indicators and in existing Balanced Scorecard, financial perspective is used along with customer, internal process and learning and growth perspective for a multidimensional view of organizational performance. This study further develop this concept by using indicators reflecting financial well-being and market positioning in its performance maps.

Freeman (1984) Freeman's Stakeholder Theory has asserted organizations have to fulfill a number of stakeholders compared to their shareholders. It justifies using both financial and non-financial indicators for judging an organization's performance and viability.

Porter (1985) Porter also considered in his work the element of competitive advantage and position in the market impact as measures of long term success of firms. With high share of the market, strong brand name and customer loyalty the firm is better able to achieve and maintain profit whereas the effect of highly competitive environment is that the outcome will be unprofitable. The above work also offers a theoretical rationale for including measures of market position in multi-dimensional performance mapping.

Altman (1968) Altman created the Z-Score model in order to look at the possibility of Bankruptcy or Corporate Distress. Altman showed that important financial health signals, for example, liquidity, profit and leverage, best predict organizational stability. This paper will use financial-health indicators in a similar fashion to test for sustainability and risk.

Steers (1975) Steers identify the various components of organizational effectiveness and maintain the view that no one indicator provides a comprehensive measure of organizational performance. He promoted a multi-criteria approach that correlates very strongly with Multi-Dimensional Performance Mapping.

Venkatraman and Ramanujam (1986) The latter scholars suggested that business performance should be measured using not only financial but also operational dimensions. Their contribution advanced beyond traditional measurement of financial accounts profits, to consider strategic and market-oriented outputs.

RESEARCH GAP

Previous researches have mainly focused on financial performance, financial health, and market position but they were analyzed independently. There has been little attempt to integrate these three fields within a single performance mapping approach. In order to analyze all of three fields to manage overall organizational function, this study employs the performance mapping.

To develop a robust research study using the data for Diversified FMCG companies (such as Hindustan Unilever, ITC, Hindustan Foods, Godavari Biorefineries, and Davangere Sugar), I have structured the objectives and methodology below.

OBJECTIVE OF THE STUDY

The main objective is to move away from analyzing one measure to multidimensional performance-mapping.

Primary Aim: To create and test an IPM index measuring profitability, financial stability and market share all at the same time for a portfolio of diversified FMCG companies.

Secondary Objectives:

Existing (another of the ones I mentioned) - To assess the operating efficiency of largecap firms such as Hindustan Unilever relative to its middle/ small-cap contemporaries using ratios such as ROCE & Asset Turn Over.

- To find the relationship between internal Financial condition (Piotroski Score) and external valuations (Price/Earnings ratio and Price-to-Book ratio)
- To define the performance ‘archetypes’ for the FMCG sector defining the returns profile of the stable cash-generators and the high-growth, high-leverage companies.

METHOD OF THE STUDY

This study will employ a Quantitative Comparative Research Design following the use of secondary data. Time framed selected financial year 2025-26.

Phase I: Data Acquisition & Normalization

Data Source: Gather Profit & Loss, Balance Sheet, Ratios and consolidated financials from Screener database of target sample companies for a period of 5-10 years.

Variable Selection:

Profitability: Operating Profit Margin (OPM), Return On Equity (ROE)

Financial Stability: Debt to Equity, Interest Coverage Ratio.

Market Positioning: Market Capitalization, Price to Book (P/BV) Ratio.

Normalisation: (All scales are different) we will normalize the data to be between [0,1] using Min-Max Scaling.

Phase II: Framework Development (IPM Index)

Calculate the composite score using a weighted-sum model:

$$IPM_i = (w_1 \cdot P_i) + (w_2 \cdot S_i) + (w_3 \cdot M_i)$$

Where P = Profitability, S = Stability, M = Market Position, and w = assigned weights (derived via AHP or PCA).

Phase III: Analysis & Mapping

- Quadrant Analysis: Plot companies on a 2x2 matrix:
- X-axis: Financial State (e.g. Piotroski Score).
- Y axis: Performance on the market (eg. Market Cap).
- Benchmarking: The median values (e.g., Median P/E) will be set as a benchmark and peers would be labeled as “Overvalued”, “Undervalued”, “Efficient” or “Stagnant”.

Table1: Basic details of the company

Name	Mar_Cap	Debt_Eq	CMP_BV	ROCE	OPM
Hind. Unilever	507535.2	0.03	10.41	28.42	23.33
ITC	363354.6	0.03	5.01	38.93	34.64
Hindustan Foods	6654.86	0.93	5.63	14.2	8.54
Godavari Bioref.	1469.01	0.67	1.86	6.55	6.39
Davangere Sugar	513.37	0.5	1.02	5.56	20.36

A comprehensive assessment combining all three dimensions allow managers and stakeholders to make rational decision, identify strength and weakness, mitigate risk, and develop strategy for sustainable growth. Therefore, multidimensional performance measurement has become an essential part of both corporate governance and financial analysis nowadays.

The companies selected are analyzed based on five significant financial ratios: Market Capitalization (Mar_Cap), Debt_Eq, CMP_BV, ROCE and OPM. These variables

reflect the financial size, leverage, estimation of market value, efficiency of deployment of capital and operating margin respectively of the companies.

The comparison analysis states that, there are wide variations in financial performance among the concerned firms. Based on the high market cap, low leverage, excellent Capital efficiency and operating profitability, Hindustan Unilever & ITC are well capable of withstanding any adverse conditions as they are financially strong and they are best investments.

On the other hand, Hindustan Foods, Godavari Biorefineries and Davangere Sugar Company are of a very small magnitude and in a weaker state. Hindustan Foods is so with the financial leverage, while it godavari Biorefineries also.

Table 2: Integrated Performance Analysis

Company	Profitability Index	Stability Index	Market Index	IPM Score
Hind. Unilever	0.64	1.00	1.00	0.88
ITC	1.00	1.00	0.57	0.86
Davangere Sugar	0.25	0.48	0.00	0.24
Hindustan Foods	0.17	0.00	0.25	0.14
Godavari Bioref.	0.01	0.29	0.05	0.12

The table below presents the normalized indices and the final **IPM Score** for each company. The Leaders (Top right quadrant) are led by HUL & ITC. So they have the maximum share of the high IPM scores, the past share price has been both high & consistent. The Stability index of mines is the highest (low debt company). Low debt acts as a force multiplier for the market cap.

The Challenger/Growth Segment: The mid-tier and small-caps (shaded in yellow) are grouped fairly closely in the lower left, suggesting that although they could have special characteristics (for instance, Davenhye Sugar's good OPM performance), they do not enjoy the scale nor the market power of the Big Businesses, and thus score relatively low in total IPM measures.

Scale vs. Stability: once again the data supports the fact that In FMCG sector high Market Positioning (weak Debt) is correlated with Stability. The “giants” got their position by having superb current accounts with very little debt, and therefore being able to keep on ploughing back investing in branding & distribution: the two main elements of their Market Capitalization.

Table 3: Statistical Correlation Analysis

Metric Relationship	Correlation	Interpretation
Market Cap vs. Debt/Equity	-0.90	Strong negative correlation; larger firms are significantly less leveraged.
Market Cap vs.	+0.87	Strong positive correlation; higher returns are a

Metric Relationship	Correlation	Interpretation
ROCE		key driver of market size.
OPM vs. Debt/Equity	-0.88	Strong negative correlation; high leverage severely suppresses operational margins.

The correlation matrix reveals the structural dynamics of your FMCG sample: The data shows that Financial Stability (low debt) is a predominant factor to attain both the high levels of profitability and excellent market positioning in this industry.

Table 4: Standardized Performance (Z-Score Analysis)

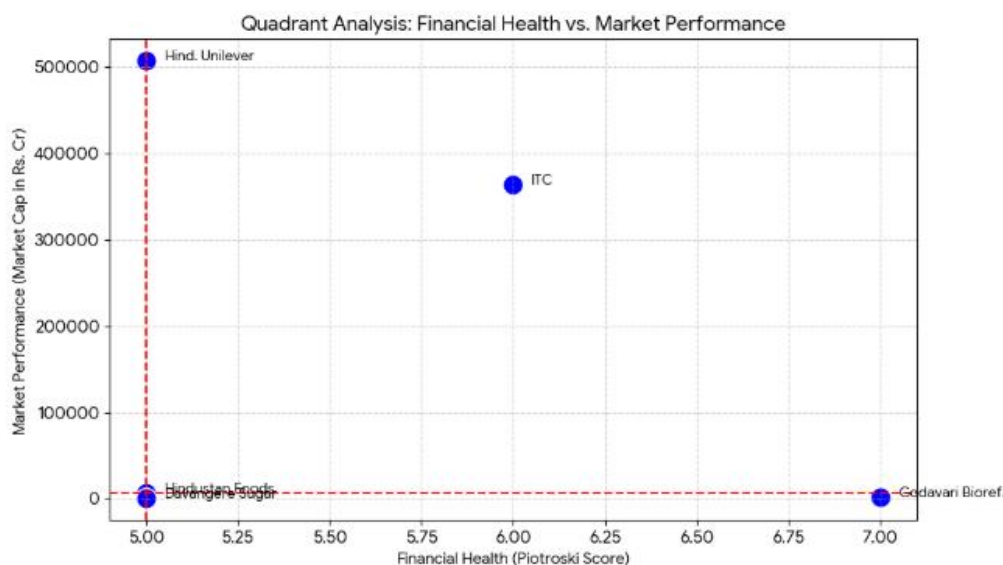
Company	Mar_Cap Z-Score	ROCE Z-Score	OPM Z-Score
Hind. Unilever	1.37	0.67	0.41
ITC	0.77	1.39	1.39
Hindustan Foods	-0.70	-0.31	-0.88
Godavari Bioref.	-0.72	-0.84	-1.06
Davangere Sugar	-0.72	-0.91	0.15

Peers' Z-scores: We measure the degree in which, regarding the peers, each company does better or worse than the average. The data show a Z-score in three minus two, implying outperformance.

ITC yet again is the clear Profitability Leader (highest Z-scores in ROCE/OPM), despite a lower Market Cap Z-score than HUL.

HUL, in its role as the Scale Leader, takes advantage of its huge market capitalization to outperform the composite IPM score, even if operating efficiency measures lag behind ITC.

Davangere Sugar has an exception here: very low market cap and ROCE, and yet positive Z for OPM and must be a Niche Efficient Player candidate for a turnaround study.



To demonstrate the correlation between Financial Health (Piotroski) and Market Performance (Market Cap) of the FMCG companies you selected, we have plotted the following quadrant analysis:

The red dashed lines depict median value of the sample and serve to split the companies into four strategic quadrants.

Table 5: Quadrant Analysis

Quadrant	Interpretation	Companies in this Segment
Top-Right (High Health / High Cap)	"Market Leaders"	<u>ITC</u>
Top-Left (Low Health / High Cap)	"Established Giants"	<u>Hind. Unilever</u>
Bottom-Right (High Health / Low Cap)	"Potential Turnarounds"	<u>Godavari Bioref.</u>
Bottom-Left (Low Health / Low Cap)	"Struggling / Niche"	<u>Hindustan Foods</u> , <u>Davangere Sugar</u>

The “Market Leader” (ITC): Already in the top-right quadrant, it has a high Piotroski score (strong internal health) as well as a huge market capitalization (justified market dominance).

“Established giant” (Hindustan Unilever): It has the highest Market Cap but Piotroski’s score is again the median. And that is an important thing for your research: for relatively mature players with multiple consolidation moves behind its back, its market dominance can sometimes rely on the power of brands and the existence of the huge distribution network instead of an incremental increase in Piotroski score (which usually weighs on mid-cap or small-cap metrics).

“Potential Turnaround” (Godavari Bioref.): This is the most financially healthy company in your sample (Piotroski = 7) that still is in the lowest market cap quartile. A “Value Gap” is present for the market may be undervaluing the stock given its financial health.

Strategic research note: Please bear in mind that the Piotroski Score is a better discriminator for small and mid-caps. With “Mega-caps” like HUL, the score does not account for their structural advantages (huge cash flows, market share, strong branding) that push their market cap up.

CONCLUSION

According to the quadrant analysis, there is a stark difference between financial fundamentals (Piotroski Score) and Market cap, showing a different attitudes from investors to different companies within the same industry:

Market dominance versus internal health Even with sound Piotroski scores (weaknesses highlighted in red), big-cap stalwarts such as Hindustan Unilever command hefty valuations. Clearly, for such giants, market cap is not necessarily rooted in positive changes in the balance sheet metrics (bright green) but are primarily supported by long-term brand strength, distribution advantages and payable flows.

The “Value Gap” Opportunity: Coming from the Value-Focused quadrant, Godavari Biorefineries is a “Potential Turnaround” potential holding with the highest Piotroski score (7), but relatively low market cap. This might imply that the market is not allocating sufficient value to this stock at the moment, relative to its underlying financial fundamentals.

Strategic Takeaway: Although the Piotroski Score is useful in finding efficiency, this value screens differently depending on where it is pulled from. In the mid-cap space it accurately points out good performance, but is not worthwhile as the sole screen in analyzing “Mega-caps” as a value screen.

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