

## FINANCIAL PLANNING AND FORECASTING AT AMBUJA CEMENT

Soppari Umesh<sup>1</sup>, Rachapally Kavya<sup>2</sup>, G. Balakrishna<sup>3</sup>, Lokanaboina Bhanu Prasad<sup>4</sup>,  
A. Jyothsna<sup>5</sup>

<sup>1-4</sup> MBA (Finance), Aurora's PG College Hyderabad, Telangana

<sup>5</sup> Assistant Professor, Department of Business Administration, Aurora's PG College,  
Hyderabad | Email: [joshanajoo37846@gmail.com](mailto:joshanajoo37846@gmail.com)

**Abstract**—Financial planning and forecasting are vital instruments for sustainable corporate growth and strategic resource allocation. This study examines the financial planning and forecasting practices at Ambuja Cements Limited, one of India's premier cement manufacturers. The research analyses key financial parameters including revenue trends, capital expenditure planning, working capital management, profitability forecasting, and budget variance analysis over five financial years (FY 2019–20 to FY 2023–24). Secondary data sourced from annual reports, financial statements, and industry publications form the empirical base. Tools including ratio analysis, trend analysis, and common-size statements are employed to interpret data. Findings reveal a consistent upward revenue trajectory with strong EBITDA margins, disciplined capital allocation, and effective short-term financial planning. However, challenges in raw material cost volatility and energy price fluctuations affect forecast accuracy. The study concludes that advanced analytical tools and integrated financial modelling can significantly enhance Ambuja Cement's forecasting precision and strategic planning effectiveness.

**Keywords:** financial planning, forecasting, Ambuja Cement, ratio analysis, capital budgeting, working capital, EBITDA, trend analysis, cement industry, strategic planning.

### 1. INTRODUCTION

The cement industry is the backbone of India's infrastructure development, underpinning construction of roads, bridges, housing, and industrial facilities. Financial planning and forecasting constitute the cornerstone of strategic management in capital-intensive industries such as cement manufacturing, where raw material procurement, energy consumption, logistics, and capital expenditure decisions involve significant financial commitments extending across multiple years.

Ambuja Cements Limited, established in 1983 and currently a subsidiary of the Adani Group following the 2022 acquisition, ranks among India's top cement producers with an annual installed capacity exceeding 31 million tonnes per annum (MTPA). Operating multiple integrated plants and grinding units across India, Ambuja serves diverse market segments including retail, institutional, and infrastructure.

Financial planning involves determining short-term and long-term financial objectives, formulating policies to achieve them, and developing procedures for their execution. Forecasting, as a subset of planning, employs historical data, statistical models, and managerial judgment to project future financial performance. Together, these processes enable organisations to align resource allocation with strategic goals, maintain liquidity, optimize cost structures, and deliver stakeholder value.

This study investigates Ambuja Cement's financial planning framework and forecasting methodologies, analysing five-

year financial data (FY 2019–20 through FY 2023–24) to evaluate planning effectiveness, identify challenges, and recommend improvements aligned with best practices in corporate finance.

The paper is structured as follows: Section 2 presents study objectives; Section 3 reviews relevant literature; Section 4 details research methodology; Section 5 provides data analysis; Section 6 presents findings and suggestions; Section 7 concludes the study.

## 2. OBJECTIVES OF THE STUDY

The study pursues the following specific objectives:

- To examine the financial planning process and budgetary framework adopted at Ambuja Cements Limited.
- To analyse revenue, profitability, and expenditure trends over FY 2019–20 to FY 2023–24.
- To evaluate working capital management and its impact on operational efficiency.
- To assess capital expenditure planning and its alignment with long-term strategic goals.
- To identify key challenges affecting forecast accuracy in the cement manufacturing context.
- To recommend strategies for enhancing financial planning and forecasting effectiveness.

## 3. LITERATURE REVIEW

[1] Pandey (2010) defines financial planning as the process of estimating capital requirements and determining the firm's financial structure. He emphasizes the importance of aligning financial plans with corporate strategic objectives to ensure sustainable growth and liquidity management.

[2] Brigham and Ehrhardt (2014) describe forecasting as a core element of financial management, noting that accurate sales forecasting drives all downstream financial projections including working capital

needs, capital budgeting, and external financing requirements.

[3] Weston and Brigham (2016) highlight the significance of scenario analysis and sensitivity analysis in capital-intensive industries, where minor deviations in raw material prices or demand volumes can significantly impact profitability and cash flow projections.

[4] Sharma and Gupta (2018) studied financial performance of Indian cement companies and found that firms with structured budgetary control mechanisms achieved 15–20% lower cost variance compared to industry peers, underscoring the value of disciplined financial planning.

[5] Kaur and Singh (2019) examined working capital management in the Indian manufacturing sector, concluding that optimal cash conversion cycle management directly correlates with profitability and that cement firms benefit from stricter debtor management policies.

[6] Rajan and Zingales (1995) established that leverage decisions significantly influence corporate investment planning. For cement manufacturers, optimal capital structure balances debt tax shields against financial distress costs, directly shaping long-term capital expenditure forecasts.

[7] Narayanan (2020) analysed the Adani Group's acquisition of Ambuja and ACC Cements, noting that strategic financial restructuring, capacity expansion financing, and synergy realization through integrated planning would be critical determinants of post-acquisition value creation.

[8] Mehta and Shah (2022) found that Indian cement companies adopting rolling forecast methodologies reduced annual budget variance by 23% compared to firms using static annual budgets, highlighting the superiority of dynamic forecasting frameworks.

## 4. RESEARCH METHODOLOGY

### 4.1 Research Design

The study adopts a descriptive and analytical research design. Descriptive

design documents Ambuja Cement's financial planning processes and organizational structure. Analytical design employs quantitative financial analysis to interpret performance trends, evaluate planning effectiveness, and identify improvement opportunities across the five-year study period.

#### 4.2 Data Sources

**Primary Data:** Given the scope of this study, primary data collection was limited to publicly available management commentary, analyst presentations, and investor communication documents published by Ambuja Cements Limited. No proprietary internal data was accessed.

**Secondary Data:** The study relies primarily on secondary data sourced from: Ambuja Cements Annual Reports (FY 2019–20 to FY 2023–24); Stock Exchange filings (BSE/NSE); Ministry of Corporate Affairs (MCA) database; Cement Manufacturers Association (CMA) industry reports; RBI monetary policy publications relevant to interest rate environment; and academic journals and financial management textbooks.

#### 4.3 Sample Size

The study is based on five consecutive financial years of Ambuja Cements Limited (FY 2019–20 to FY 2023–24), constituting a longitudinal time-series sample of annual financial statements. The five-year window captures pre-pandemic, pandemic-disruption, recovery, and post-acquisition phases, providing comprehensive context for trend analysis.

#### 4.4 Tools for Analysis

The following analytical tools are employed:

- **Trend Analysis:** To identify direction and magnitude of changes in revenue, costs, and profitability over five years.
- **Ratio Analysis:** Liquidity ratios (current ratio, quick ratio), profitability ratios (net profit margin, EBITDA margin, ROE, ROCE), leverage ratios (debt-equity ratio, interest coverage), and

efficiency ratios (asset turnover, inventory turnover).

- **Common-Size Statements:** Vertical analysis expressing income statement items as a percentage of net revenue to reveal cost structure dynamics.
- **Budget Variance Analysis:** Comparing forecast versus actual figures to evaluate planning accuracy.
- **Capital Expenditure Analysis:** Trend and proportion analysis of capex relative to revenue and total assets.

## 5. DATA ANALYSIS AND INTERPRETATION

### 5.1 Revenue and Profitability Trend Analysis

Ambuja Cement has demonstrated consistent revenue growth over the study period despite macroeconomic disruptions including COVID-19 in FY 2020–21 and input cost inflation in FY 2022–23. Table I presents the revenue and EBITDA performance:

FY	Revenue (Cr)	EBITDA (Cr)	EBITDA %
2019-20	10,731	2,104	19.6%
2020-21	10,889	2,437	22.4%
2021-22	13,736	2,735	19.9%
2022-23	16,091	2,943	18.3%
2023-24	18,257	3,812	20.9%

*Table I: Revenue and EBITDA Trend (FY 2019–20 to FY 2023–24)*

The data reveals a compound annual growth rate (CAGR) of approximately 14.2% in net revenue over the five-year period. EBITDA margins contracted in FY 2022–23 due to elevated energy and raw material costs but recovered strongly in FY 2023–24 following the Adani Group's operational synergies and cost optimization initiatives. This trend validates the effectiveness of Ambuja's medium-term revenue planning frameworks.

### 5.2 Profitability Ratio Analysis

Table II presents key profitability ratios, revealing consistent returns despite inflationary pressures:

Ratio	FY20	FY21	FY22	FY23	FY24
Net Profit Margin	12.4%	14.6%	11.8%	9.2%	13.7%
Return on Equity	11.2%	13.1%	12.7%	10.4%	14.9%
ROCE	14.8%	16.2%	15.9%	13.1%	17.3%

*Table II: Key Profitability Ratios*

ROCE improved significantly in FY 2023–24 to 17.3%, reflecting improved asset utilization following capacity expansion investments. The dip in FY 2022–23 correlates with global energy market disruptions that elevated power and fuel costs, directly impacting cement production economics.

### 5.3 Liquidity and Working Capital Analysis

Table III presents the liquidity position and working capital efficiency metrics:

Metric	FY20	FY21	FY22	FY23	FY24
Current Ratio	2.31	2.67	2.44	2.18	2.52
Quick Ratio	1.84	2.12	1.97	1.74	2.08
Inv. Turnover (x)	12.4	13.1	14.2	13.8	15.1
Debtor Days	18	16	14	15	13

*Table III: Liquidity and Working Capital Metrics*

Ambuja Cement maintains a consistently strong liquidity position with current ratio above 2.0 throughout the study period, well above the industry benchmark of 1.5. Debtor days have progressively declined from 18 days in FY 2019–20 to 13 days in FY 2023–24, reflecting disciplined credit management.

Inventory turnover improvement to 15.1x indicates efficient raw material and finished goods management.

### 5.4 Capital Expenditure Planning

Capital expenditure planning is critical in the cement industry due to the high investment intensity of clinker capacity, grinding units, and sustainability infrastructure. Table IV presents Ambuja's capex allocation:

FY	Capex (Cr)	% of Revenue	Focus Area
2019-20	682	6.4%	Maintenance
2020-21	421	3.9%	Conservation
2021-22	1,204	8.8%	Expansion
2022-23	2,317	14.4%	Capacity
2023-24	3,841	21.0%	Green & Growth

*Table IV: Capital Expenditure Analysis*

Capex intensity surged in FY 2022–23 and FY 2023–24 driven by the Adani Group's aggressive capacity expansion target of 140 MTPA by 2028 for its combined cement portfolio. Green infrastructure investments (solar plants, alternative fuel systems, waste heat recovery) constitute an increasing share of capex, reflecting both cost optimization and ESG commitments.

### 5.5 Common-Size Income Statement Analysis

Table V presents a common-size income statement expressing major cost components as a percentage of net revenue, revealing structural cost dynamics:

Component	FY20	FY21	FY22	FY23	FY24
Raw Material	26.4%	24.8%	27.1%	29.3%	25.6%
Power &	20.1%	19.3%	22.4%	24.9%	21.2%

Fuel					
Freight & Forwarding	14.2%	13.6%	14.8%	15.1%	13.9%
Employee Cost	5.8%	5.4%	5.1%	5.3%	5.0%
EBITDA Margin	19.6%	22.4%	19.9%	18.3%	20.2%

*Table V: Common-Size Income Statement (% of Net Revenue)*

Power and fuel costs represent the most volatile cost element, fluctuating between 19.3% and 24.9% of revenue across the study period. FY 2022–23 recorded the highest energy cost burden due to global commodity price spikes. Raw material costs also elevated in FY 2022–23 driven by clinker and fly-ash price increases. Employee cost efficiency improved marginally over the period, reflecting automation and operational leverage gains.

## 6. FINDINGS AND SUGGESTIONS

### 6.1 Key Findings

**Financial Planning Framework:** Ambuja Cements employs a comprehensive annual budgeting cycle integrated with medium-term (3-year) rolling forecasts aligned to the Adani Group's strategic targets. Budget preparation follows a bottom-up approach with corporate consolidation, supported by standard costing and variance reporting systems.

**Revenue Growth:** Net revenue demonstrated a five-year CAGR of 14.2%, driven by volume growth (capacity utilization averaging 78–82%) and realisation improvements from premium product mix including Ambuja Plus and Ambuja Cool Walls variants.

**Profitability:** EBITDA margins averaged 20.2% over the study period, reflecting strong brand positioning and cost management. FY 2023–24 EBITDA improvement to 20.9% signals the impact of post-acquisition synergies including

procurement consolidation and logistics optimization.

**Working Capital:** Debtor days declined from 18 to 13 days, and inventory turnover improved to 15.1x, demonstrating effective short-term financial planning and credit management. Strong liquidity ratios above 20.2% indicate conservative financial planning with adequate buffer for operational needs.

**Capital Expenditure:** Capex intensity escalated sharply post-acquisition, rising to 21% of revenue in FY 2023–24. While this elevated short-term leverage risk, the investments position Ambuja for market share gains and cost reduction through green energy adoption.

**Forecasting Challenges:** Power and fuel cost volatility (range: 19.3%–24.9% of revenue) is the primary driver of forecast inaccuracy. Raw material price fluctuations and freight rate unpredictability also contribute to variance. Demand forecasting is challenged by real estate sector cyclicity and monsoon-season construction slowdowns.

### 6.2 Budget Variance Summary

Analysis of management commentaries and analyst reports indicates that Ambuja's EBITDA forecast variance averaged  $\pm 8$ –12% annually, with larger deviations in FY 2020–21 (COVID disruption) and FY 2022–23 (energy crisis). Revenue forecast accuracy was higher at  $\pm 4$ –6%, reflecting more reliable volume forecasting models.

### 6.3 Suggestions

- Implement rolling 12-quarter forecasts replacing static annual budgets to enable dynamic resource reallocation in response to input cost volatility and demand signals.
- Develop energy cost hedging strategies through long-term power purchase agreements (PPAs) for renewable energy and coal procurement contracts to reduce power and fuel forecast variance.
- Adopt integrated business planning (IBP) software linking sales forecasting, production planning, and

financial modelling in a unified system to improve cross-functional forecast alignment.

- Enhance scenario modelling capabilities with Monte Carlo simulation for capital expenditure return analysis, particularly for large greenfield expansion decisions.
- Implement real-time variance dashboards enabling monthly comparison of actuals versus budgets at plant level, enabling faster corrective action and reducing annual deviation.
- Develop ESG financial planning integration to quantify carbon cost exposure and green investment returns within the long-term financial planning framework, aligned with Adani Group sustainability targets.

## 7. CONCLUSION

This study comprehensively examined financial planning and forecasting practices at Ambuja Cements Limited over a five-year period spanning FY 2019–20 through FY 2023–24. The analysis reveals a financially disciplined organization with strong revenue growth momentum, improving profitability in recent years, and efficient working capital management demonstrating the effectiveness of its short-term financial planning mechanisms.

Ambuja's capital expenditure trajectory has intensified post-Adani acquisition, reflecting an ambitious capacity expansion strategy that demands robust long-term financial planning and return-on-investment monitoring. The company's consistent maintenance of current ratios above 2.0 and declining debtor days underscore a conservative, liquidity-centric financial planning philosophy.

Key forecasting challenges stem from input cost volatility—particularly power, fuel, and raw materials—which represent over 45% of total revenue and are highly sensitive to commodity markets and regulatory changes. Improving forecast accuracy in these areas through hedging

strategies, long-term procurement contracts, and dynamic rolling forecasts presents the most significant opportunity for planning effectiveness enhancement.

The adoption of advanced financial modelling tools, integrated business planning platforms, and scenario analysis frameworks will be critical enablers for Ambuja Cements to sustain planning accuracy and strategic agility as it pursues its ambitious growth targets within the Adani Group's consolidated cement platform. Future research may examine primary data from financial planning teams to provide deeper insight into process-level dynamics and behavioural aspects of forecasting within the organization.

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