Hemanth Tenneti – Data Analytics Portfolio

Finance & Business Analytics Projects

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Portfolio Overview

This portfolio demonstrates end-to-end analytics capabilities across **finance valuation**, **comparative company analysis**, **marketplace data intelligence**, and **retail operations analytics**. Each case study highlights problem framing, analytical methods, tools, and business impact.

Project 1: Adani Total Gas Ltd – Sensitivity Analysis (DCF-Based Valuation)

Problem Statement
Evaluate whether Adani Total Gas Ltd is overvalued or undervalued using DCF valuation and sensitivity analysis on key assumptions.

Dataset / Inputs
Company financials (annual reports/investor data), assumptions for FY25–FY29 projections, terminal value framework.

Tools
Excel, DCF modeling framework, sensitivity tables.

Analyses Performed

- Enterprise and equity valuation via DCF.
- Sensitivity analysis on WACC and terminal growth g.
- Ratio-based diagnostics for profitability, leverage, and liquidity.

Outcomes

- Intrinsic equity value estimated at ~**2,456.69 Cr** vs market reference **601**, indicating potential overvaluation under baseline assumptions.
- Valuation shown to be highly assumption-sensitive (approx. $\pm$10–20% shifts with small WACC/g changes).
- Highlighted risk signals: declining margins, falling ROE trend, high leverage, weak liquidity profile.

Project 2: Hindalco vs NALCO – Financial & Ratio Analysis

Problem Statement
Compare financial performance and operating efficiency of Hindalco and NALCO to identify the stronger investment candidate.

Dataset / Inputs
Multi-year company annual reports and financial statements (FY22–FY25 range).

Tools
Excel, ratio modeling, trend visualization.

Analyses Performed

- Liquidity and profitability ratio comparison (current/quick, ROE, ROA, margins).
- Efficiency metrics (asset turnover, receivables turnover, DSO).
- Revenue/margin and valuation trend comparisons (EPS, P/E, stock-linked indicators).

Outcomes

- Hindalco revenue growth at ~**81%** versus NALCO ~**25%** over selected years.
- Hindalco showed relatively stronger consistency in margins and ROE trend.
- NALCO exhibited higher volatility consistent with commodity-cycle exposure.

Project 3: Olist Marketplace Analytics (Capstone)

Problem Statement
Identify the strongest drivers of customer satisfaction and revenue in a large e-commerce marketplace.

Dataset / Inputs
Brazilian Olist dataset (9 relational tables; ~100K orders; 2016–2018).

Tools
Python (Pandas, NumPy, SciPy, Statsmodels, scikit-learn), Jupyter, Tableau Public, GitHub.

Analyses Performed

- Built ETL pipeline and integrated relational data into analysis-ready tables.
- Performed EDA + statistical tests (Welch's t-test, ANOVA, chi-square, OLS) + segmentation (RFM/K-means).
- Developed interactive dashboard with KPI scorecards and operational drill-down views.

Outcomes

- Found delivery timeliness as the strongest satisfaction driver (on-time vs late score gap highly significant).
- Identified low repeat purchase behavior (3%), highlighting retention opportunity.
- Generated actionable recommendations for logistics SLA, retention flow, and regional freight optimization.

Links
GitHub: https://github.com/HemanthNST/SectionB_Group10_OlistCommerce
Tableau: https://public.tableau.com/app/profile/hemanth.tenneti/viz/SectionB_Group10_OlistCommerce/Overview?publish=yes

Project 4: Cafe Analysis (Sales & Operations Analytics)

Problem Statement
Analyze transactional café sales data to identify revenue drivers, customer behavior patterns, and operational inefficiencies.

Dataset / Inputs
Synthetic transactional café dataset (orders/items/timestamps) from project repository; multi-month daily transaction patterns.

Tools
Python (Pandas, Matplotlib, Seaborn), Jupyter Notebook, CSV/Excel workflows.

Analyses Performed

- Sales trend analysis across dayparts, weekdays, and peak windows.
- Product/category performance and Pareto contribution analysis.
- Order behavior analysis including AOV and demand frequency patterns.

Outcomes

- Identified peak-hour windows with ~**20–30% higher sales**, informing staffing and promotion timing.
- Isolated top products contributing ~**70–80%** of revenue (Pareto concentration).
- Highlighted low-performing items for potential menu rationalization and cost control.

Link
GitHub: https://github.com/HemanthTenneti/SectionB_Group1_CafeAnalysis

Tools and Analytical Coverage

Category	Coverage
Finance Analytics	DCF valuation, sensitivity testing, ratio diagnostics, company comparison
Data Analytics	ETL, EDA, hypothesis testing, segmentation, KPI framework
Visualization	Tableau dashboards, chart-based storytelling, business recommendation mapping
Technical Stack	Python, Excel, Jupyter, Tableau, Git/GitHub