Prompt Engineering Portfolio

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Project 1: **College Canteen Menu Redesign & Financial Feasibility**

Final Evaluation Report

Objective

To redesign the college canteen menu within a ₹10–₹300 price range, balancing student affordability, nutrition, and variety while ensuring profitability, scalability, and ROI feasibility for management.

Problem Statement

The current canteen setup lacked a structured, affordable, and trending menu. There was no clear financial or operational model to satisfy both CEO expectations (strategy, branding, student satisfaction) and CA requirements (ROI, costing, risk control). The project aimed to create a menu and operations model that solved both.

Dataset (Inputs)

- Assumed 1,000 students on campus (30% conversion → 300 daily customers).
- Synthetic costing (e.g., samosa: cost ₹8 → price ₹15).
- Estimated category mix: Snacks 40%, Meals 30%, Fast food 20%, Desserts/Premium 10%.
- Modeled revenue, margins, and ROI using tables + Python charts.

Prompt v1 (Raw / Zero-Shot)

Design a college canteen menu that is affordable (₹10–₹300), balances nutrition, variety, speed, and profitability. Suggest price bands and sample items.

Raw Output v1 (Summary)

- Menu categories created (snacks, meals, fast food, healthy corner, beverages, desserts).
- General items suggested but without cost-margin analysis or ROI forecasting.

Refined Prompt v2 (Structured / Iterated)

You are a canteen business analyst. Produce:
1. Segmented menu (categories + sample items) for ₹10–₹300.
2. Cost vs price vs margin table.
3. Daily & monthly revenue model (300/day, 26 days).
4. Investment & OPEX estimate + payback period.
5. Plan-B for sales dips & operational risks.
6. Staffing, space & holiday plan.
Output: tables, bullet answers, and a Colab-ready Python code cell that generates charts.

Final Output (Delivered)

- Redesigned Menu: Affordable snacks (₹15–50), main meals (₹60–280), premium specials (₹150–300).
- Cost vs Margin: Average 40–50% margins across items.
- Revenue Model: ~₹27k/day → ~₹7L/month sales; Gross Profit ~₹3.15L; Net Profit ~₹1.3–1.5L/month.
- Investment: ~₹14.5L setup; Payback: 10–12 months.
- Plan-B: Risk handling (low sales, staff absence, raw material shortages, equipment failures).

- Staffing & Space: 8 staff full ops, 4 staff holiday ops; ~1,500–2,000 sq. ft. needed.
- Colab-ready Python Code: Generated revenue charts (bar & pie).
- PowerPoint Deck: Boardroom-ready (CEO & CA).

Post-Processing / Code

- Converted outputs into structured tables.
- Created matplotlib visualizations (monthly financial snapshot & daily sales mix).
- Automated PPTX generation using python-pptx.
- Delivered both Colab notebook snippet + PowerPoint.

Visualization

- Bar Chart: Monthly Financial Snapshot (Revenue, Profit, OPEX, Net Profit).
- Pie Chart: Daily Sales Mix (Snacks 40%, Meals 30%, Fast food 20%, Desserts/Premium 10%).
- Slides: PPT deck with 12+ slides for CEO & CA.

Insight / One-Line Summary

A ₹10–₹300 menu with 40–50% margins and strong controls ensures student affordability + ROI in one year.

Skills Demonstrated

- Prompt Engineering & Iteration (zero-shot → structured → business logic outputs).
- Business & Financial Modeling (cost-margin, ROI, payback, breakeven).
- Operational Planning (staffing, space, logistics, holiday & Plan-B).
- Data Visualization (Python/matplotlib charts).
- Automation (PowerPoint generation via Python).
- Presentation & Storytelling (CEO-ready slides, CA-level reports).
- Compliance & Risk Management (hygiene, UPI, FIFO waste control).

Evaluation Rubric (Industry-Style)

Criteria	Score (/20)	Notes
Relevance & Problem Fit	20	Solves affordability + profitability clearly.
Prompt Clarity & Iteration	18	Good structure; schema can improve.
Output Quality & Correctness	18	Solid; numbers are synthetic.
Reproducibility	16	Needs real POS dataset.
Presentation & Insight	18	Strong PPT + visuals; branding scope remains.

Total: 90/100 – Excellent; industry-ready portfolio project.

Final Recommendation

This project showcases end-to-end prompt engineering applied to business modeling. It is boardroom-ready for CEO/CA and interview-ready as Project 2 of the Prompt Engineering Portfolio.

✅ Can be directly showcased to management and interview panels as a professional portfolio case study.