Coffee Vending Management Platform Corp.

Product Case Study

Data: Kaggle Coffee Sales (vending machine) | Format: 30-min presentation + Q&A

Background

Coffee Vending Management Platform Corp. operates a growing network of automated coffee vending machines. Each machine sells eight beverage types (Latte, Americano, Cappuccino, Hot Chocolate, Cocoa, Cortado, Espresso, and Americano with Milk) and accepts both card and cash payments.

The company has been collecting transaction-level data since March 2024. Each record captures the timestamp, payment method, anonymized card ID (when applicable), transaction amount, and product purchased. The dataset now contains several thousand transactions.

Currently, operations managers rely on weekly spreadsheet exports and manual analysis to make decisions about machine servicing, inventory restocking, and pricing. This process is time-consuming and reactive rather than proactive.

The Challenge

Leadership has asked your team to explore how the company might use its transaction data more effectively. They've observed several pain points:

- Machines sometimes run out of popular products during peak hours, while less popular items sit unused

- Pricing feels arbitrary—they suspect some products are underpriced during high-demand periods and overpriced when traffic is low

- Cash handling creates reconciliation challenges—some transactions look unusual but there's no systematic way to flag them

- Operations managers spend hours each week manually pulling reports instead of acting on insights

Your Task

Build a working AI-powered product that helps operations managers make better, faster decisions. Your solution should go beyond dashboards and reports—we want to see a system that can understand the data, anticipate what's coming, and take action.

You have significant latitude in how you approach this problem. Consider: What insights are hidden in the data? What can be predicted? What decisions or workflows could be automated—and how do you keep humans appropriately in the loop?

Deliverables

Deliverable	Description
Working Product	A functional AI-powered application. Should demonstrates how you can leverage AI to build, optimize, and automate business processes.
README	Setup instructions, key assumptions, and known limitations. Keep it brief.