

Summer MGMT 59000: AI-Assisted Big Data Analytics in the Cloud * Group: **DN3**
Assignment 1: Team Collaborative Analysis
Using Cloud Data Lakes for Business Intelligence

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Executive Summary

Top 3 Unified Insights

1. Geographic and Product Mix Drive Profitability More Than Operations

The convergence of sales, product, and regional analyses reveals that location (city impact: 34.1% of sales variance) and product manufacturer (26.5% of sales variance) are the primary drivers of business success.

2. Discounting Strategy Creates Systematic Profit Erosion

Aggressive discounting undermines profitability without generating proportional sales increases. This suggests systematic mispricing rather than strategic discount deployment.

3. Customer Value Concentration Requires Targeted Retention

Customer behavior analysis reveals extreme value concentration, with Champions generating significantly higher monetary value than other segments. Combined with regional performance data showing customer concentration in high-performing West and East regions, this indicates that business success depends heavily on retaining a subset of high-value customers in profitable geographic markets.

Critical Business Challenges Identified

Operational Inefficiency in Underperforming Regions: Central and South regions consistently lag in both sales and profit metrics

Misaligned Pricing Strategy: Heavy discounting on low-margin products creates a downward profit spiral

Customer Concentration Risk: Over-reliance on Champion customers and high-performing regions creates vulnerability

Product Portfolio Imbalance: High-sales categories (Tables, Bookcases) generate negative profits

Recommended Priority Actions

Immediate: Implement region-specific pricing strategies to reduce unprofitable discounting

Short-term: Concentrate marketing and inventory investments in West/East regions and high-margin products

Medium-term: Develop comprehensive customer retention programs for the Champion segment

Long-term: Restructure or exit unprofitable product categories and regional markets