Optimizing Cost and Profitability: Case Study

A food delivery service is facing challenges in achieving profitability across its operations. With a dataset of 1,000 food orders, the service seeks to understand the dynamics of its cost structure and profitability to identify strategic opportunities for improvement.

The dataset contains comprehensive details on food orders, including Order ID, Customer ID, Restaurant ID, Order and Delivery Date and Time, Order Value, Delivery Fee, Payment Method, Discounts and Offers, Commission Fee, Payment Processing Fee, and Refunds/Chargebacks. This data provides a foundation for analyzing the cost structure and profitability of the food delivery service.

Your task is to conduct:

1. **Detailed Cost Analysis**: Identifying the major cost components associated with delivering food orders, including direct costs like delivery fees and indirect costs like discounts and payment processing fees.
2. **Profitability Evaluation**: Calculating the profitability of individual orders and aggregating this data to assess overall profitability. This involves examining how revenue generated from commission fees measures against the total costs.
3. **Strategic Recommendations for Improvement**: Based on the cost and profitability analysis, identifying actionable strategies to reduce costs, adjust pricing, commission fees, and discount strategies to improve profitability. This includes finding a "sweet spot" for commission and discount percentages that ensures profitability across orders.
4. **Impact Simulation of Proposed Strategies**: Simulating the financial impact of the recommended strategies on profitability, using the dataset to forecast how adjustments in commission rates and discount strategies could potentially transform current losses into profits.