

# Business Recommendation Report

## Profit Optimization Strategy

This report summarizes strategic recommendations derived from the profit prediction model. The objective is to guide leadership on how to allocate budget more effectively to maximize profitability.

Model Performance Summary: -  $R^2 = 0.92$  (explains 92% of profit variation) - RMSE = \$12,988 - Average Profit = \$119,529 These values indicate a strong and reliable model for decision-making.

## Key Findings

- 1 R&D; and Marketing have the strongest impact on profit growth.
- 2 Administration contributes positively but less than growth investments.
- 3 State-level factors add little predictive value to profit forecasting.

## Strategic Recommendations

- 1 Increase R&D; and Marketing budgets as primary growth levers.
- 2 Control Administration costs to maintain efficiency.
- 3 Shift budget from overhead to revenue-generating departments.
- 4 Track ROI continuously to optimize investment returns.

## Expected Business Impact

Simulation analysis suggests that increasing R&D; and Marketing investments could lead to profit growth of 20–30% over time, assuming current patterns continue. The reallocation strategy offers higher yield with manageable risk.

CEO 1-Minute Summary: Our analysis shows that profit growth is driven primarily by investment in R&D; and Marketing. Overhead spending should be optimized, not expanded. Redirecting budget toward innovation and promotion will produce the highest financial return with lower long-term risk.