

# Marketing Campaign Performance Analysis

## Portuguese Bank

### Executive Summary

This report analyzes a Portuguese bank's marketing campaign data to identify key drivers of customer subscription to term deposits. The overall conversion rate is 11.7% across approximately 45,000 customers. Previous campaign success, contact method, and campaign frequency emerge as the strongest predictors of conversion. The analysis highlights opportunities to improve conversion rates while reducing unnecessary outreach costs.

### Business Problem Statement

Marketing campaigns represent a significant investment for banks. Despite large outreach volumes, conversion rates remain modest. The challenge is to identify high-intent customers, optimize contact strategies, and reduce inefficiencies caused by repeated outreach.

### Data Overview

The dataset consists of approximately 45,000 customer records from a Portuguese bank marketing campaign. The primary target variable is whether a customer subscribed to a term deposit. Key attributes include job category, education level, contact method, campaign frequency, and previous campaign outcomes.

### Methodology

SQL was used for data cleaning, aggregation, KPI calculation, and segmentation. Python supported exploratory data analysis and validation. Power BI enabled interactive visualization and insight communication focused on business decision-making.

### Key Insights

Customers with successful previous campaign outcomes exhibit significantly higher conversion rates. Cellular contact consistently outperforms telephone-based outreach. Repeated campaign exposure leads to declining conversion rates, indicating campaign fatigue. Certain job categories show consistently stronger subscription performance.

### Business Recommendations

Prioritize customers with previous campaign success for targeted re-engagement. Shift outreach toward cellular contact channels. Limit repeated campaign contacts to prevent fatigue. Segment campaigns by job profile to improve return on investment.

### Limitations & Future Scope

The analysis does not include campaign cost data, limiting direct ROI estimation. Future work could incorporate cost and revenue metrics, predictive modeling, and A/B testing to further optimize campaign

strategy.

## Conclusion

This project demonstrates end-to-end analytical thinking, transforming raw data into actionable business insights. By focusing on customer intent, contact efficiency, and campaign optimization, the bank can enhance marketing effectiveness and resource utilization.