

# PORTFOLIO PROJECT PROPOSAL

## INTRODUCTION

In today's competitive business environment, understanding customer behavior and accurately predicting sales trends are critical to making data-driven decisions. This project aims to utilize cutting-edge analytical techniques to segment customers effectively and forecast future sales, empowering the organization to enhance customer relationships and align resources strategically.

## OBJECTIVES

### Customer Segmentation:

#### 1. SQL:

- Perform analysis to categorize customers based on their purchasing behavior.
- Identify actionable customer segments: **High Value**, **Potential Loyalists**, **At Risk**, and **Dormant**.

#### 2. Power BI:

- Create interactive dashboards to visualize customer segments.
- Analyze geographical distribution and key metrics (e.g., revenue, profit) for better strategic planning.

### Sales Forecasting:

#### 3. Python:

- Develop predictive models to forecast monthly sales using historical data.
- Analyze trends and seasonality to predict future revenue for the next 12 months.
- Compare predicted sales against sales targets to identify potential gaps or over performance areas.

## DELIVERABLES

#### 1. Customer Segmentation:

- Detailed SQL queries and scripts for segmentation.
- Power BI dashboard showcasing interactive visualizations:
- Customer segment proportions.
- Geographical spread of customer segments.

#### 2. Sales Forecasting:

- Python scripts for time series modeling.
- Forecasting chart highlighting future trends and seasonality.
- Insights comparing forecasted sales against targets.

### 3. **Comprehensive Report:**

Key findings and actionable recommendations for customer retention, re-engagement, and inventory planning.

## **TOOLS AND TECHNOLOGY**

- **Data Management:** SQL (for merging and querying datasets).
- **Data Visualization:** Power BI (for creating interactive dashboards).
- **Predictive Analytics:** Python (for time series forecasting with ARIMA or Prophet).

## **CONCLUSION**

This project will deliver a robust analytical framework combining customer segmentation and sales forecasting. By leveraging SQL, Power BI, and Python, the organization will gain deep insights into customer behavior and future revenue patterns, enabling data-driven decision-making and long-term growth.