

Project Overview

Project Title: Business Intelligence Analytics Platform

Project Type: End-to-End Capstone

Business Problem Statement

The organization generates large volumes of **sales and customer data**, but leadership lacks:

- Clear KPI visibility
- Trend identification
- Performance variance insights
- Data-backed executive decisions

Goal: Build a centralized **BI Analytics Platform** to support strategic decision-making.

Data Scope & Structure

Database Tables (SQL)

- **Sales Table**
 - Order ID
 - Order Date
 - Product Category
 - Region
 - Revenue
 - Profit
 - Quantity

- **Customer Table**

- Customer ID
- Customer Name
- Segment
- Location
- Acquisition Date

5 Key Deliverables

- ◆ **1. SQL Database & Queries**

- Database schema design
- Joins between sales & customers
- KPI calculation queries
- Time-based aggregations

- ◆ **2. KPI Dashboards (Power BI)**

Mandatory KPIs:

- Total Revenue
- Total Profit
- Profit Margin %
- Customer Count
- Average Order Value

- Region-wise & Category-wise Performance
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◆ 3. Trend & Variance Analysis

- Month-over-Month growth
 - Year-over-Year comparison
 - Sales vs Target variance
 - Top & bottom performing regions/products
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◆ 4. Excel Analysis (Business Validation)

- Pivot tables
 - KPI summary sheets
 - Trend charts
 - Cross-validation of BI results
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◆ 5. Python Analytics (Pandas)

- Data cleaning & preprocessing
 - EDA (Exploratory Data Analysis)
 - Trend detection
 - Correlation analysis
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◆ 6. Executive Summary (Final Report)

A **1–2 page management-ready summary** covering:

- Key insights
- Risks & opportunities
- Actionable recommendations
- Business impact

Tools & Technology Stack

Layer	Tools
Database	MySQL
BI & Visualization	Power BI
Spreadsheet Analysis	Excel
Data Analysis	Python (Pandas, NumPy, Matplotlib)

Evaluation Criteria

- Accuracy of KPIs
- Dashboard clarity & usability

- Depth of analysis
- Business relevance of insights
- Quality of executive summary