Agreement & Billing Performance Analysis

📌Project Overview

This project is an **end-to-end Data Analytics portfolio project** that demonstrates how raw organizational data can be transformed into meaningful business insights using **Python, SQL, Power BI, and structured reporting**.

The dataset represents **tender, agreement, billing, AMC, security, and EMD details** of a company. The objective is to analyze financial performance, agreement status, and revenue realization across different issuers and projects.

🕑Objectives

- Clean and preprocess raw business data
- Perform exploratory data analysis (EDA) using Python
- Answer business-driven analytical questions using SQL
- Build an interactive Power BI dashboard for decision-making
- Document insights in a professional analytical report

🛠️Tools & Technologies

- **Python**: Pandas, NumPy, Matplotlib, Seaborn
- **SQL**: PostgreSQL (queries & aggregations)
- **Power BI**: Interactive dashboard & KPIs
- **Jupyter Notebook**: Data analysis & visualization
- **GitHub**: Version control & project documentation

📂Project Structure

```
├── Dataset.csv
├── Agreement & Billing Performance Analysis.ipynb
├── Company Project.sql
├── MainDashboarddd.pbit
├── Agreement_and_Billing_Performance_Report.pdf
├── README.md
```

📊Dataset Description

The dataset includes information related to: - Tender details (issuer, quantity, rate, total amount) - Agreement lifecycle (start date, completion date, remarks) - Billing performance (gross amount, tax, deductions, net amount, received & balance) - AMC, Security, and EMD financial tracking

This structure allows multi-dimensional financial and operational analysis.

🖌️Python Analysis (Jupyter Notebook)

Key tasks performed: - Data cleaning (handling null values, formatting columns) - Exploratory Data Analysis (EDA) - Revenue and billing trend analysis - Issuer-wise and agreement-wise performance evaluation - Visualizations using bar charts, line charts, and distributions

📄File: `Agreement & Billing Performance Analysis.ipynb`

🗄️SQL Analysis (PostgreSQL)

The SQL file contains **business-oriented analytical queries**, such as: - Top issuers by total billing amount - Average tender rates by issuer - Outstanding billing balances - AMC, Security, and EMD summaries - Revenue contribution analysis

📄File: `Company Project.sql`

📈Power BI Dashboard

The Power BI dashboard provides: - KPI cards (Total Billing, Net Amount, Balance) - Issuer-wise revenue breakdown - Agreement status overview - Billing vs Received comparison - Interactive filters for deeper analysis

📄File: `MainDashboarddd.pbit`

📝Analytical Report

A professionally structured PDF report summarizing: - Project background & objectives - Methodology - Key insights & findings - Dashboard explanation - Business recommendations

📄File: `Agreement_and_Billing_Performance_Report.pdf`

📌Key Insights

- Identified top revenue-generating issuers
- Highlighted agreements with high outstanding balances
- Compared billed vs received amounts to assess cash flow
- Provided a consolidated financial view across billing, AMC, security, and EMD

🗜️How to Run This Project

1. Clone the repository
2. Open the Jupyter Notebook for Python analysis
3. Import dataset into PostgreSQL to run SQL queries
4. Open the Power BI template to explore the dashboard

💡Skills Demonstrated

- Data Cleaning & EDA
- SQL Query Writing (Easy → Intermediate)
- Business Analytics Thinking
- Dashboard Design
- Technical Documentation

📬Contact

If you found this project useful or want to discuss data analytics opportunities:

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🕐*If you like this project, don't forget to star the repository!*