Project Summary: Service Data Insights

Purpose of the Project

The main objective of this project is to analyze a company's transactional data—specifically **service usage and payments**—to understand the overall business performance. I connected and analyzed four core tables: **Users, Services, Usage, and Payments** to generate meaningful business insights.

Key Areas Analyzed

- **Financial Health:** Evaluated total revenue generation and identified whether the business is showing consistent month-over-month growth.
- **User Behavior:** Analyzed user distribution across cities and examined service usage trends.
- **Operational Risks:** Identified revenue loss due to failed payments and users who consumed services without completing full payments.
- **Service Popularity:** Determined the most profitable service categories such as Banking, Education, and others.

Strategic Observations (Key Findings)

- **Revenue Growth:** Used SQL Window Functions (LAG) to measure month-over-month revenue growth and compare performance with previous months.
- **High-Value Markets:** Identified the top 5 cities contributing more than 50% of the total revenue.
- **Payment Gaps:** Conducted a **Credit Risk Analysis** to identify users whose total service usage exceeded their successful payments.
- **Inactive Users:** Filtered users who registered on the platform but never used any service, indicating potential churn.

Recommended Actions (Business Insights)

1. **Payment Recovery:** The finance team should follow up with users who have pending payment balances.
2. **Infrastructure Improvements:** Analyze failed transactions to fix system issues and prevent revenue leakage.
3. **Targeted Marketing:** Focus marketing efforts on high-revenue cities and popular service categories to maximize growth.
4. **User Re-engagement:** Launch special offers and campaigns to re-engage inactive users and bring them back to the platform.

Tools & Skills Used

- **Database:** PostgreSQL (pgAdmin 4)
- **Skills:** SQL Joins, Subqueries, CTEs, Window Functions, and Data Formatting