

INSURANCE ANALYTICS PROJECT

- PROJECT DESCRIPTION

INTRODUCTION:

The Insurance Analytics Project is designed to analyze insurance datasets and uncover insights related to claims, revenue, customer segments, and risk factors. The project demonstrates how **SQL**, **Excel**, **Power BI** and **Tableau** can be combined to clean, transform, and visualize data effectively. This project was executed as part of my **3-month Data Analyst internship at AI Variant**.

OBJECTIVES:

- To analyze insurance sales performance across Cross-Sell, New, and Renewal policies.
- To track meetings, invoices, and opportunities handled by account executives.
- To identify top opportunities by revenue and highlight high-value clients.
- To visualize the stage funnel by revenue and understand pipeline quality.
- To compare yearly meeting counts (2019 vs 2020) and assess growth trends.
- To replicate the analysis across Excel, Power BI, Tableau, and SQL for skill demonstration.

TOOLS AND TECHNOLOGIES:

- **Excel** – Data cleaning, pivot tables, charts, slicers, dashboard design.
- **Power BI** – Interactive dashboards with DAX measures, slicers, KPIs.
- **SQL** – Data import, transformations, KPIs calculation, queries for aggregation.
- **Tableau** – Data visualization with charts, hierarchies, filters, and dashboards.

METHODOLOGY:

1. Data Collection & Import

- Gathered raw CSV files (Brokerage, Fees, Budgets, Invoice, Meeting, Opportunity).
- Imported data into Excel, SQL (via Table Data Import Wizard), Power BI, and Tableau.

2. Data Cleaning & Preparation

- Removed duplicates, handled null values, corrected date formats.
- Standardized column names and formats across all datasets.
- Merged brokerage & fees data to create **Achievement table** in SQL.

3. Data Transformation

- Created calculated columns for targets, achievements, and KPIs.
- Applied filtering (e.g., income_class = Cross Sell, New, Renewal).
- Aggregated metrics such as total revenue, invoice counts, meeting counts, and opportunity stages.

4. Analysis

- Compared Invoice vs Achievement vs Target across all policy types.

- Calculated Achievement % and Invoice Achievement % using SQL queries and DAX in Power BI.
- Analyzed Yearly Meeting Trends, Meetings per Account Executive, and Invoices per Executive.
- Built Stage Funnel by Revenue and identified Top Opportunities.

5. Visualization

- **Excel:** Built dashboards using Pivot Tables, Charts, and Slicers.
- **Power BI:** Designed interactive dashboard with KPIs, slicers, and DAX measures.
- **Tableau:** Created charts with filters, hierarchies, and combined dashboards.
- **SQL:** Used queries for tabular reports and KPI extraction.

6. Outcome & Insights

- Highlighted areas of under/overachievement in sales.
- Identified best-performing account executives.
- Showed growth in meetings year-over-year.
- Presented key opportunities driving maximum revenue.

FINDINGS:

- **Policy Performance:** Cross-Sell ~65%, New ~18%, Renewal ~150%.
- **Meetings & Invoices:** Growth in yearly meetings (2019–2020); top account executives identified.
- **Opportunities:** 49 total, 44 open; top 4 by revenue .
- **Stage Funnel:** Revenue breakdown across stages like Qualify, Propose, Negotiation.
- **Products & Revenue:** Employee Benefits and Property contributed highest revenue.

CONCLUSION:

- Renewal policies greatly exceeded targets, while new policies underperformed → focus area for sales strategy.
- Cross-sell still has growth potential with ~65% achievement → requires targeted campaigns.
- Account executives with higher meeting counts also drove stronger invoice numbers → meetings directly impacted revenue.
- Top opportunities and high-value product groups identified → helped in prioritizing deals.
- Replicating across Excel, Power BI, Tableau, and SQL showcased versatility in data cleaning, analysis, and visualization skills.