▫ Executive Summary – Insurance Data Analysis Dashboard (Power BI + SQL + AI)

This project presents a fully interactive and AI-enhanced dashboard, built using **Power BI** and **Microsoft SQL Server**, to analyze insurance data across multiple dimensions. It helps stakeholders understand **policy performance**, **claim trends**, and **customer sentiment** to make informed decisions.

Key Objectives:

· Analyze key insurance metrics: **Premiums, Coverage, Claims**

· Segment and filter insights by **policy type, gender, age, and status**

· Evaluate **claim outcomes** and **customer satisfaction**

· Leverage **AI** to uncover feedback sentiment patterns

Workflow Overview:

· **Data Source**: Raw insurance data was stored and queried using **Microsoft SQL Server**.

· **ETL Process**: SQL queries were used for data filtering, transformation, and cleansing.

· **Data Import**: Cleaned data was imported into **Power BI** for dashboard creation.

· **AI Analysis**: Sentiment analysis was applied to customer feedback within Power BI.

Dashboard Highlights:

1. Customer & Policy Overview

· **KPIs: Premium Amount (5.98M), Coverage Amount (600.55M), Claim Amount (16.91M)**

·Gender-based segmentation (Male vs Female policyholders)

·Interactive slicers for PolicyNumber, ClaimNumber, and CustomerID

2. Policy & Claim Insights

· **Premium by Policy Type**: Travel leads, followed by Health and Auto

· **Active vs Inactive Policies**: 75% are active

· **Claims by Status**: Highest number of claims are Rejected, followed by Settled

· **Claim Amount by Age Group**: Adults contribute the highest claim volume

3. **AI-Powered Feedback Analysis**

· **Word Cloud** of most used customer feedback terms

· **Sentiment Table** using AI scoring to rate feedback quality

· **Bar Chart** showing count of customers by feedback type (*Excellent*, *Needs Improvement*, *Good*)

AI Integration:

· Embedded **sentiment scoring model** to automatically assess textual feedback

· Enables a data-driven understanding of customer satisfaction and pain points

Technologies Used:

- **Microsoft SQL Server**: Data querying, filtering, and transformation
- **Power BI**: Data modeling, DAX, interactive dashboards
- **AI Visuals**: Sentiment Analysis, Word Cloud
- **ETL Process**: SQL + Power Query integration

Business Impact:

- Offers a deep dive into customer and policy behavior
- Identifies improvement areas in claims and service processes
- Provides a competitive advantage by leveraging AI for feedback analytics