

## Business Requirement Document (BRD)

Project Title: Insurance Premium & Claims Data Analysis

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### 1. Business Overview

This dataset captures **insurance policy details, customer demographics, prior insurance history, claims data, and premium adjustments**. The goal is to develop **Pivot Tables and Dashboards** to analyze **premium distribution, claim patterns, customer acquisition channels, and conversion trends**.

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### 2. Objectives

- Analyze premium variations based on **age, marital status, region, and policy type**.
  - Identify claim frequency and severity across different **customer segments**.
  - Examine the impact of **discounts (safe driver, bundling, multi-policy)** on **premium adjustments**.
  - Evaluate the effectiveness of **lead sources (agent vs. online)** on conversion rates.
  - Provide an interactive **dashboard** summarizing key business insights.
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### 3. Scope of Work

#### 3.1 Data Preparation

- Clean and format the dataset (standardize categorical values, ensure consistency in numeric fields).
- Extract key fields such as **claims frequency, premium adjustments, discounts, and conversion metrics**.
- Categorize policyholders based on **age groups, marital status, and regions** for demographic analysis.

#### 3.2 Pivot Table Analysis

The following **Pivot Tables** will be created:

1. **Premium Distribution Analysis**
  - Average **Premium Amount** by **Age, Region, Marital Status, and Policy Type**.
  - Impact of **Safe Driver, Multi-Policy, and Bundling Discounts** on **Premium Adjustments**.
  - Comparison of **Premium Adjustments by Credit Score and Region**.
2. **Claims Analysis**
  - **Claims Frequency and Severity** by **Age Group, Marital Status, and Policy Type**.

- Impact of **Prior Insurance Tenure** on Claims Frequency.
- Claims Adjustment Trends based on **Premium Amount and Discounts Applied**.

### 3. Conversion & Lead Source Analysis

- **Conversion Rate by Source of Lead (Agent vs. Online)**.
- **Time Since First Contact** vs. **Conversion Rate** correlation.
- **Number of Website Visits, Inquiries, and Quotes Requested** before Conversion.

### 4. Customer Segmentation Analysis

- Breakdown of **Policyholders by Region**.
- **Senior vs. Non-Senior Policyholder Comparison** in Premium and Claims.
- Customer segmentation based on **Time to Conversion & Credit Score Ranges**.

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## 4. Functional Requirements

### 4.1 Dashboard Elements

- **Premium Overview**
  - Average and Median Premium Amount.
  - Top factors influencing **premium adjustments**.
  - Premium comparison between **Urban and Suburban regions**.
- **Claims Trends**
  - Number of claims by **severity level**.
  - Claim frequency and adjustment trends over time.
  - High-risk groups based on **claims data**.
- **Conversion & Lead Analysis**
  - **Conversion Funnel Visualization** (from inquiry to final purchase).
  - **Effectiveness of Lead Sources** (Agent vs. Online).
  - Average **Time to Conversion** and impact of website interactions.

### 4.2 Visual Components

- **Bar Charts** for premium distribution across **age groups and regions**.
  - **Pie Charts** for discounts applied across different policies.
  - **Heatmaps** for claim severity and frequency trends.
  - **Line Graphs** for conversion trends over time.
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## 5. Success Metrics

- Improved understanding of **premium pricing and claim behavior**.
  - Identification of **high-risk policyholders** for proactive measures.
  - Data-driven insights to **optimize lead generation and conversion strategies**.
  - Enhanced **customer segmentation** for personalized policy recommendations
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## 6. Deliverables

- The Excel file should be structured for ease of use, with separate sheets for raw data, pivot tables, and the dashboard.
  - Visuals should be clear and user-friendly with conditional formatting for better readability.
  - Performance optimization should be considered to handle large datasets efficiently.
  - An Excel workbook must contain:
    - Cleaned and structured dataset
    - Pivot table reports
    - Interactive dashboard with slicers and charts
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