### ****Introduction****

* **Project Overview**:  
  This project analyzes the **Sales Conversion Rate** across various dimensions, including customer segments, lead sources, product categories, and time trends. The goal is to uncover actionable insights to optimize campaign performance and improve conversion rates.
* **Stakeholders**:
  + Sales and Marketing Teams
* **Scope**:
  + Measure and evaluate the effectiveness of sales campaigns.
  + Identify key drivers influencing conversion rates, including customer behavior, lead sources, and product categories.
  + Provide recommendations to address underperforming areas, such as regional or monthly gaps in conversions.

### ****Data Requirements****

* **Data Sources**:
  + Sales and leads data from **internal CRM systems**.
* **Data Volume**:
  + **1,000 leads** spanning over two years.

### ****Data Preparation****

* **Data Cleaning**:
  + Verified data for accuracy and consistency.
  + Handled missing and null values to ensure reliable analysis.
* **Data Transformation**:
  + Categorized lead sources, customer segments, and product categories.
  + Aggregated and structured data to calculate Sales Conversion Rates by key dimensions (region, time, lead source, etc.).
  + Added time filters to enable analysis by month and year.

#### ****Analysis and Design****

* **Business Questions**:
  1. What is the overall **Sales Conversion Rate** in our campaign?
  2. How does the **Conversion Rate** vary by **Customer Segment**?
  3. What is the **Conversion Rate** for different **Lead Sources**?
  4. What is the **Conversion Rate** in each **Product Category**?
  5. How does the **Sales Campaign** perform over time?
* **KPIs and Metrics**:
  1. **Sales Conversion Rate**: The percentage of converted leads over the total number of sales leads.
* **Visualization Plan**:
  1. Create individual charts to address each business question.
  2. Compile all visualizations into a **Sales Conversion Dashboard** with slicers and filters for:
     + **Time**: Month, Year
     + **Lead Sources**, **Customer Segments**, **Regions**, and **Product Categories**

#### ****Implementation****

* **Visualizations**:
  + **Dashboard Elements**:
    1. **Card**: Displaying the overall **Sales Conversion Rate**.
    2. **Pie Charts**:
       - Conversion Rate by **Lead Sources**.
       - Conversion Rate by **Customer Segments**.
    3. **Bar/Line Chart**:
       - Conversion Rate trends over time.
    4. **Table Chart**:
       - Conversion Rate by **Region** and **Lead Sources**, broken down by year.
  + **Interactivity Features**:
    1. **4 Slicers**:
       - Lead Sources
       - Customer Segments
       - Region
       - Product Category
    2. **2 Filters**: Month, Year

#### ****Insights****

1. **Overall Sales Conversion Rate**:
   * Over the past two years, the Sales Conversion Rate (CR) is **48.6%** based on 1,000 leads.
   * However, it decreased slightly by **0.6%** compared to the previous year.
2. **Sales Conversion Rate by Region**:
   * The **South (52.5%)** and **West (51%)** regions have the highest conversion rates.
3. **Sales Conversion Rate by Lead Source**:
   * **Email (54.8%)** and **Social Media (53.7%)** lead sources deliver the highest conversion rates.
4. **Sales Conversion Rate Over Time**:
   * The average CR over the last two years is **48.6%**, with performance generally consistent.
   * However, **August** showed the lowest CR at **34.2%** based on 76 leads.

#### ****Recommendations for August Performance Improvement****:

1. **Central Region**:
   * Focus on **Email** and **Social Media** lead sources, which have the highest CRs (**60.0%** and **66.7%**, respectively).
2. **North Region**:
   * Target **Referral** and **Trade Shows** as both achieved **100% CR**.
3. **West Region**:
   * Prioritize **Trade Shows (100%)**, **Unknown Sources (66.7%)**, and **Referrals (50%)**.
4. **South Region**:
   * Focus on **Referrals (50%)** and **Trade Shows (40%)**, while deprioritizing other sources.
5. **East Region**:
   * Target **Website (66.7%)** and **Referrals (66.7%)**, which have the highest CRs in this area.
6. North area with Referral and trade show based on 100% CR .
7. West area we can focus on Trade show (100%) , unknown lead sources 66.7% CR , and Referral 50.0% CR.
8. South area has to focus on Referral (50.0%)cr and trade show(40.0%) CR Neglect the other sources.
9. East focus on Website and Referral Lead Sources based on 66.7% CR highest CR