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**Data 110**

## **Final Report: Tobacco Consumption Analysis (2000-2023)**

### **Introduction**

The dataset analyzes tobacco consumption in the United States from 2000 to 2023, broken into Domestic and Imported categories. It includes population-adjusted metrics (Per Capita Consumption) to assess trends over time. Understanding tobacco consumption trends is critical for public health initiatives, policy-making, and evaluating the success of anti-smoking campaigns.

### **Summary of EDA Process and Key Observations**

The Exploratory Data Analysis (EDA) focused on understanding trends, patterns, and relationships within the dataset:

- Trends Over Time: Total tobacco consumption has steadily declined since 2000.
- Domestic vs. Imports: Domestic tobacco consumption dominates, but imports have remained relatively stable.
- Per Capita Consumption: Average tobacco consumption per person has significantly decreased, showing a positive public health trend.

The analysis highlighted significant insights using various visualizations.

### **Detailed Visualizations and Insights**

#### **1. Line Chart: Total Tobacco Consumption Over Time**

Rationale: A single line is used to show the overall trend in tobacco consumption.

Insights: Total consumption has been steadily declining since 2000, with occasional small fluctuations. This indicates a long-term reduction in tobacco usage.

## 2. Bar Chart: Domestic vs. Imported Consumption (Recent 5 Years)

Rationale: A bar chart simplifies comparisons between Domestic and Imported consumption for the most recent 5 years.

Insights: Domestic consumption remains significantly higher than imports, although both have seen slight declines in the last few years.

## 3. Pie Chart: Share of Domestic vs. Imports in the Latest Year

Rationale: A pie chart effectively shows the proportions of domestic and imported consumption.

Insights: Domestic consumption accounts for the majority of tobacco usage, while imports contribute a much smaller share.

## 4. Bar Chart: Average Per Capita Tobacco Consumption by Year

Rationale: A bar chart tracks per-person consumption trends year by year.

Insights: Per capita consumption has declined sharply over the years, reflecting reduced tobacco use among individuals and the impact of public health policies.

## 5. Line Chart: Domestic vs. Imported Consumption Trends Over Time

Rationale: Two lines allow a clear comparison between Domestic and Imported trends over time.

Insights: Domestic consumption has steadily decreased, while imported tobacco remains relatively stable but at much lower levels.

## Conclusion

The analysis of U.S. tobacco consumption from 2000 to 2023 highlights several key findings:

1. Overall Decline: Total tobacco consumption has significantly decreased, indicating progress in public health efforts.
2. Domestic vs. Imports: Domestic tobacco consumption continues to dominate but is also on a declining trend, while imports remain a small contributor.
3. Per Capita Reduction: Average tobacco consumption per person has dropped, reflecting a change in individual smoking habits, likely due to education, regulations, and health campaigns.

Implications

These findings support the success of public health initiatives and suggest a continuing positive trend in reducing tobacco consumption. Policymakers can use this data to focus on import regulations and further reduce domestic production.

### **Future Research**

1. Investigate the causes behind declines in domestic consumption
2. Explore regional differences in consumption trends.
3. Study the impact of alternative tobacco products (like e-cigarettes) on overall consumption.