Empowering India: Analyzing the Evolution of Union Budget Allocations for Sustainable Growth

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This project analyzes the evolution of Union Budget allocations in India with a focus on sustainable growth sectors such as Healthcare, Education, Infrastructure, Agriculture, and Renewable Energy. The Python code below performs: 1. Data loading and preprocessing 2. Exploratory data analysis (EDA) 3. Visualization of allocation trends 4. Growth rate calculation 5. Insights generation

```python
# Import required libraries
import pandas as pd
import matplotlib.pyplot as plt

# Load dataset (Example CSV structure)
# Year, Healthcare, Education, Infrastructure, Agriculture, Renewable_Energy
data = pd.read_csv('union_budget_allocations.csv')

# Display first few rows
print(data.head())

# Set Year as index
data.set_index('Year', inplace=True)

# Plot allocation trends
plt.figure()
for column in data.columns:
    plt.plot(data.index, data[column])

plt.xlabel("Year")
plt.ylabel("Budget Allocation (in Crores)")
plt.title("Union Budget Allocation Trends for Sustainable Growth Sectors")
plt.legend(data.columns)
plt.show()

# Calculate Year-on-Year Growth Rate
growth_rate = data.pct_change() * 100
print("Year-on-Year Growth Rate (%):")
print(growth_rate)

# Calculate Average Allocation per Sector
average_allocation = data.mean()
print("Average Allocation per Sector:")
print(average_allocation)

# Identify highest funded sector each year
data['Highest_Funded_Sector'] = data.idxmax(axis=1)
print("Highest Funded Sector Each Year:")
print(data['Highest_Funded_Sector'])

# Save results
growth_rate.to_csv("growth_rate_analysis.csv")
```