**IDEA 2: Analyzing Factors Influencing Government Building Ownership vs. Leasing Decisions**

Data 400 – Mini Project

Government agencies must decide whether to own or lease buildings based on multiple economic, logistical, and policy-driven factors. Ownership involves long-term investments, maintenance costs, and asset control, while leasing provides flexibility and lower upfront costs. Understanding what factors influence these decisions can offer insights into government spending efficiency, real estate market dynamics, and urban development strategies.

As a data analyst examining public infrastructure decisions, my goal is to investigate the key determinants that influence whether a government chooses to own or lease a building. My research question is: **"What factors might influence whether a government chooses to own or lease a building in a specific location?"**

1. **Data Source**

The dataset used in this study comes from Data.Gov website - Real Estate Across the United States (REXUS) Inventory (Building) dataset. This is the [link](https://catalog.data.gov/dataset/real-estate-across-the-united-states-rexus-inventory-building) to the dataset.

The dataset contains 8,749 records detailing various aspects of public buildings, including location, size, ownership status, historical significance, parking availability, and construction year.

The dataset includes several key attributes relevant to this study:

* Location & Region: Bldg State, Bldg City, Region Code
* Ownership Status: Owned/Leased
* Building Size & Usability: Bldg ANSI Usable (usable square footage)
* Infrastructure & Facilities: Total Parking Spaces
* Building History & Construction Year: Construction Date, Historical Status
* Accessibility Compliance: ABA Accessibility Flag

This dataset is well-structured with no missing values in critical variables. However, additional assumptions may be required to contextualize the economic drivers behind ownership vs. leasing decisions.

1. **Data Analysis Plan**

To answer the research question, this study will conduct an exploratory data analysis (EDA) to examine patterns and relationships between ownership status and key building attributes.

* Analyzing Building Size vs. Ownership

+ Compare the average usable space of owned vs. leased buildings.

+ Hypothesis: Larger buildings are more likely to be owned due to long-term cost efficiency.

* Regional Trends in Government Building Ownership

+ Identify states or regions where leasing is more common than ownership.

+ Hypothesis: Urban areas with high real estate costs will have more leased government buildings.

* Historical Building Ownership Patterns

+ Investigate whether historical buildings are more likely to be owned.

+ Hypothesis: Preservation policies encourage government ownership of historical sites.

* Construction Year & Government Ownership Trends

+ Analyze whether older buildings are more likely to be owned.

+ Hypothesis: Older buildings tend to be government-owned, while newer ones are leased.

* Parking Space Availability & Ownership

+ Examine whether owned buildings have more parking spaces than leased ones.

+ Hypothesis: Owned buildings are larger and located in areas with more parking availability.

1. **Implications for Stakeholders**

* Government Agencies & Policymakers

+ Optimize public spending by identifying factors that influence leasing vs. ownership.

+ Support urban planning decisions by understanding regional real estate dynamics.

+ Ensure accessibility compliance and efficient resource allocation.

* Economic & Real Estate Analysts

+ Understand how government leasing decisions affect commercial real estate markets.

+ Assess whether leasing trends align with economic conditions in different states.

+ Provide insights for developers and investors targeting government contracts.

* Public Interest & Urban Development

+ Advocate for efficient use of public funds in infrastructure decisions.

+ Evaluate how government building strategies impact local economies and communities.

1. **Ethical, Legal, and Societal Considerations**

This study uses publicly available, non-personal building data and follows ethical data analysis practices.

* Data Ethics & Transparency

+ The dataset is aggregated and anonymized, ensuring no personal data is analyzed.

+ Findings will be used to inform policy and economic decisions, not penalize any region.

* Economic Equity & Social Impact

+ Government leasing and ownership patterns may affect economic equity, particularly in underdeveloped areas.

+ Policy recommendations should consider regional economic disparities in real estate pricing.

* Legal & Policy Implications

+ Results may inform public infrastructure funding and leasing policies.

+ Findings can support budget allocation decisions for government real estate management.