Residential Home Prices in the United States over the Next 10 Years

Factors That Will Influence Residential Home Prices In the United States over the Next 10 Years
Overview:
In USA There are 50 states with 6 different races and more sharing the country with a population of approximately 34 crores having the highest GDP in the world. Despite being in this scenario Price of a product will be based on Supply and Demand. Here we are considering the product as Residential Houses across United States. The best approach to start with will be a statistical approach in which it can be categorised in to Qualitative and Quantitative Analysis

Qualitative Analysis: Qualitative data are the result of categorizing or describing attributes of a population. Hair colour, blood type, ethnic group, and the car a person drives, and the street a person lives on are examples of qualitative data

Quantitative Analysis: are always numbers. Quantitative data are the result of counting or measuring attributes of a population. Amount of money, pulse rate, weight, number of people living in your town

EDA:
- Univariate Analysis,
- Bivariate Analysis,
- Segmented Analysis
- Data Visualization for all the Driver variables

Modelling:
- Ordinary Least Squares Method
- Gradient Descent Method
- Multi Variate Regression Analysis

Problem Statement:

Describe all the factors that will influence residential home prices in the United States over the next 10 years?

Decentralizing the Problem Statement

1. Demographic Factors
2. Housing Factors
3. Economic Factors
4. Government Policies
5. Technology Disrupt
6. Act of God
7. Feel good Factors

1 Demographic Factors:
- Age: Age of the Person who was buying the property
- Gender: for which gender the customer belongs?
- Race: for which race the customer belongs , people belongs to a race generally lives together

- Marital status: Whether the person is married or not, Married People Tend to buy new home
- Number of children (if any) : persons stay in the house depends upon the children
- Occupation: what was the occupation of the buyer, Individual or Employee or CEO etc.?
- Annual income: What was the annual income of the customer whether he can afford to buy or not
- Education level: To which Educational Category he belongs, Graduate, PG, and PhD etc.
- Living status: Whether the customer enjoying the Home Ownership or Paying rent to the Landlord?

2 Housing Factors

- Bedrooms: how many bedrooms available for the house [1, 2, 3, etc.]
- Bathrooms: desired Bathroom as per the customer preference
- Square Feet: what is the length , depth of the house while listing
- Age: How long the house has been constructed
- Stories: how many stories included before and after if remodelling
- Garage: if the home consists of any Garage for repairing the car, Bike etc.
- Basement: Is Basement available for Parking car
- Exterior Construction : what was the Exterior Construction made of Rocks , Bricks , Concrete , Wood
- Usable Space: Is there is any space for walking or Relaxing or Tree Plantations
- Pool: Presence of swimming Pool as per most of the customer preferences
- Floor Covering: What type of floor Covering was used, EX: Timber, Laminate, Bamboo etc.
- General Interior: Interior design of the house. Was it eye catching?
- General Exterior: Exterior design of the house. Whether it will able to survive the climate conditions
- Recreation Centres: Any Recreation Centres nearby for Kids etc.
- Crime Statistics: what was the percentage of the crimes happened in that vicinity
- Proximity to Downtown: How far the driveway to the centre of the city?
- Proximity to Major Highway: How far the Highway is located?
- Proximity to shopping centre: How far the shopping malls are located?
- Proximity to schools, colleges, Universities etc.

3. Economic Factors

- Financial Markets –NYSE , NASDAQ : Bullish/sluggish in Financial Markets
- Unemployed People: This category of people will be having multiple incomes varies from day to day
- Gross Domestic Product: Have to Pay taxes to the Government and it will raise a lift in house price
- Payroll Employment: Have stable income/Annum and Take a Long tenure to buy out
- Mortgage: low and high interests varied from Bank / Investors etc.

4. Government Policies

- Low-interest credit initiatives : offering Low interest to pay for Long tenures
- Public-policies: Loans for the People in US Armed Forces etc.
- Revising the mortgage polices : changing the Mortgage Policies

5 Technology Disrupt – SMART HOMES

- Offsite Modular and Prefabricated Houses
- Co-Living | office space and Living space
- Big-Data : use of buy and sell history of data and Predict the price of the product
- AI and machine learning : apply various algorithms and review the statistical Models
- Virtual and augmented reality :people who want to see the view of the house from remote Place
- Internet of Things : Activate gadgets remotely whenever

- 5G : Monitor the activities from remote place with faster speed
- Drones : Aerial view of the bigger houses at low costs compared to ages ago

6 Act of God

- Natural Disasters: Like Earthquake's, Typhoons, Tsunami, Floods, Hurricanes, etc.

7 Feel Good Factors

- Home Ownership: The Buyer wants to enjoy the Home Ownership rights and full their dreams

All the Factors that are well versed above will be applicable for the Supply and Demand Law

For Example: Prices go up in this Following case

More People Employed with High wages = Have Bigger Budgets for Home = Demand goes up

Low Interest rates =more people can afford Mortgage = Demand goes up

Financial Incentives to not sell your home = less homes for sales = supply goes down

Less number of homes built = not enough new houses to keep up with new buyers = supply goes down