India Population Census 2011 Analysis

Project Description :-

Aimed to analyse the Indian population census of 2011 and created Power BI Dashboard showing useful insights.

Overview: -

The Census 2011 is the 15th National census survey conducted by the Census Organization of India. Mr. C. Chandramouli is the Commissioner & Registrar General of the Indian 2011 Census. The 2011 Indian National Census has been conducted in 2 phases - house listing and population. The national census survey covered all the 28 states of the country and 7 Union territories including 640 districts, 497 cities, 5767 tehsils & over 6 lakh villages.

The Indian Population Census 2011 covered a number of parameters during the survey. These parameters include population, growth rate in population, rate of literacy, density of population, sex ratio and child sex ratio (0-6 years). According to the census reports of Indian Census 2011, the population of India is 1,210,854,977 with 623, 724, 248 males and 586,469, 174 females. The total literacy rate in the country at present is 74.04%. The density of population is 382 persons/sq.km. In regards to sex ratio, at present there are 940 females on average on per 1000 males and the child sex ratio is 914 females per 1000 males.

The Population Enumeration offers needed Census data about land & its people in the present time. The survey reveals the current population trends, its varied characteristics that are valuable inputs for planning sound programs and policies aimed towards the welfare of India & her people and also for effective public administration.

Analysis Framework:-

- **Data Gathering:** Collected the relevant data from Kaggle [Census 2011 India] into the MS Excel

- **Data preparation:** The project involved using SQL aggregations to prepare and clean data for analysis. This included aggregating data from multiple sources and tables, filtering out irrelevant information, and performing calculations to derive meaningful insights.

The Insights

- **Population analysis**: The project involved analysing the population of different states in India, including their size, growth rate, and demographic makeup. This analysis was based on data obtained from reliable sources and was used to identify trends and patterns in population growth and distribution. The total population of India came out to be 1186 M

- **Literacy rate analysis:** The project also involved analysing the literacy rate of different states in India, including the percentage of the population that is literate and the quality of education provided in different regions. This analysis was used to identify areas where educational interventions were needed and to track progress over time. Kerela topped the list with 94% of average literacy rate.

- **Sex ratio analysis:** In addition to population and literacy rate, the project also included analysing the sex ratio of different states in India, including the number of males and females per 1000 population. This analysis was used to identify areas where gender-based discrimination was prevalent and to track progress over time. Kerala again topped the list with 1080 females per 1000 males.

- **Growth rate analysis:** The project also included analysing the growth rate of population across different states in India. This analysis helped in understanding the population dynamics of each state, and how the population growth has changed over time.

- **Population before vs. after:** The project compared the population of different states before and after a certain event. This analysis helped in identifying the impact of the event on the population of the state and how it changed over time.

- **Interactive dashboard:** To present the analysed information, the project included the development of an interactive dashboard. The dashboard was designed to be user-friendly and visually appealing, with features such as filters, graphs, and tables that allowed users to explore the data and discover key insights.

- **Key insights:** The dashboard provided useful insights about population, literacy rate, growth rate, sex ratio, and number of males and females by state. These insights were derived from the data analysis and were presented in an easy-to-understand format on the dashboard.

- **Demographic trends:** The dashboard allowed for a comprehensive analysis of demographic trends across different states, including population size, age distribution, and gender balance. This provided valuable insights into the changing demographics of each state and how they compare to national trends.

Visualizations:-

The following report was successfully created in Microsoft PowerBI.

[DASHBOARD PART 1]

(https://github.com/Trfa235/Anudip_Project/blob/main/Dashboard_1.png)

[DASHBOARD PART 2]

(https://github.com/Trfa235/Anudip_Project/blob/main/Dashboard_2.png)

Lessons Learned:-

- **Always plan ahead:** Planning ahead and creating a roadmap of the different activities that need to be completed can help keep the project on track and ensure that all the necessary steps are completed in a timely and efficient manner.

- **Data cleaning is essential:** Cleaning and preparing the data for analysis is a critical step in any data project, as it ensures that the insights are based on accurate and reliable data.

- **The importance of visualization:** Creating visualizations of the data can help communicate insights to stakeholders and make them more engaging and understandable.

- **The power of automation:** Using tools and scripts to automate repetitive or time-consuming tasks can save a significant amount of time and effort, allowing more focus on the actual analysis and insights.

- **Continuous learning:** Technology and tools are constantly evolving, and keeping up to date with the latest developments can help improve the efficiency and effectiveness of future projects.

Limitations/Challenges:-

- The project proceeded smoothly without any significant challenges.

- The only thing was it was a quite lengthy project to work on.

- It provided an excellent learning opportunity, allowing me to enhance my skills and gain valuable insights along the way.

Future Scope:-

- **Actionable recommendations**: Based on the insights generated from the dashboard, the project can provide actionable recommendations for policymakers and stakeholders. For example, recommendations could include investing in education initiatives to improve literacy rates or implementing policies to address gender-based discrimination.