Project 3: TN Marginal Workers Assessment

Project Definition

Project Title: Analyzing Demographic Characteristics of Marginal Workers in Tamil Nadu

Project Description: This project aims to analyze the demographic characteristics of marginal workers in the state of Tamil Nadu, India. Marginal workers are individuals who engage in irregular or low-income employment, and this analysis will focus on understanding their age, industrial category, and sex. The primary objective is to perform a socioeconomic analysis and create visualizations that effectively represent

the distribution of marginal workers across different categories. To achieve this, we will define clear objectives, plan the analysis approach, select appropriate visualization types, and use Python and data visualization libraries for analysis.

Objectives

1. **Demographic Analysis:** Analyze the demographic characteristics of marginal workers, including age and gender distribution.
2. **Industrial Category Analysis:** Explore the distribution of marginal workers across different industrial categories.
3. **Socioeconomic Insights:** Gain insights into the socioeconomic conditions of marginal workers in Tamil Nadu.

Design Thinking

Project Objectives

1. Demographic Analysis

* **Objective:** To understand the age and gender distribution of marginal workers.
* **Approach:** Analyze the dataset to calculate the age distribution in different age groups (e.g., 18-24, 25-34, 35-44, 45-54, 55-64, 65+). Create visualizations, such as histograms or bar charts, to represent this distribution. Additionally, calculate the gender distribution and represent it using pie charts or bar charts.

2. Industrial Category Analysis

* **Objective:** To explore the distribution of marginal workers across various industrial categories.
* **Approach:** Examine the dataset to identify industrial categories and the number of marginal workers in each category. Create visualizations like bar charts or stacked bar charts to depict the distribution. Additionally, calculate percentages to understand the relative proportions of workers in each category.

Project Definition and Design Thinking Document

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Additionally, calculate percentages to understand the relative proportions of workers in each category.

3. Socioeconomic Insights

* **Objective:** To derive socioeconomic insights from the data.
* **Approach:** This involves identifying patterns or correlations between age, gender, and industrial categories. Perform statistical analysis, if necessary, to uncover any significant relationships. Use heatmaps or scatterplots to visualize these relationships.

Analysis Approach

1.Data Collection: Gather the relevant dataset containing information about marginal workers in Tamil Nadu. Ensure that the dataset includes age, gender, and industrial category data.

2.Data Cleaning: Clean the dataset by handling missing values, outliers, and inconsistencies. Ensure data is formatted correctly for analysis.

3.Data Exploration: Explore the dataset to understand its structure and contents. Perform summary statistics to gain initial insights.

4.Demographic Analysis: Execute the demographic analysis approach as described above to understand age and gender distributions.

5.Industrial Category Analysis: Identify and analyze industrial categories within the dataset, then create visualizations to represent the distribution.

6.Socioeconomic Insights: Perform in-depth analysis to derive socioeconomic insights, considering relationships between age, gender, and industrial categories.

7.Visualization Selection: Select appropriate visualization types based on the analysis objectives and data characteristics. Ensure that the chosen visualizations effectively communicate the insights.