**MODULE 6: HOMEWORK ASSIGNMENT**

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**DATA UNDERSTANDING & DATA CLEANING:**

1. Downloaded the “**cbp21cd**” dataset from the class module.
2. Check if there are any NULL values in the dataset.
3. A screenshot of a computer

   Description automatically generatedExcluded Null values in **NAICS Description** and **State** variables using Tableau as shown in Figure 1.

**Figure 1: Excluded null values.**

1. The dataset was cleaned.

**INTERACTIVE CHART 1:**

* **Chart Summary:** This chart showcases the top 10 States with top 10 NAICS Descriptions based on Employment and Establishment distribution.
* **Type of Chart:** Bar Chart
* It is straightforward to determine the top 10 states and the NAICS descriptions and compare the employment and establishment statistics between the states using a bar chart.
* **Parameters:**

1. TOP 10 NAICS Parameter
2. TOP 10 States Parameter

* The user may alter the range between 1 and 10 from the Top 10 States parameter & Top 10 NAICS parameter and view the statistics for the top states employment and establishment distribution based on the range they have chosen.
* **A screenshot of a computer

  Description automatically generated**The top 10 NAICS sectors, the description was color-coded using various hues to make it simple for users to identify it.

**Figure 2: Interactive Chart 1**

* **BUSINESS INSIGHTS:**

1. This chart ranks the top 10 states based on employment and establishment distribution within the top 10 NAICS industry categories.
2. From this outline Figure 2, Clients can choose various states from the State Filter which makes it simple to compare/analyze the information between the states.
3. It is easy to find the topmost NAICS sectors and states using parameter range filter.
4. From this chart, California state is having highest Sum of Employments and Number of establishments followed by Florida state.
5. When compared to other NAICS sectors in the top 10 states, the highest number of employments is in the "Health Care and Social Assistance" sector.
6. Except for California, Florida, and Illinois states, which have the most establishments in the "Professional, Scientific, and Technical Services" sector, the top 10 states have the most establishments in the "Retail Trade" category.

**INTERACTIVE CHART 2:**

* **Chart Summary:** This graph represents the employment and establishment distribution per state along with various noise flags.
* **Type of Chart:** Bar Chart
* Using bar chart, it is easy to identify and compare the number of employments and establishments data between the states having three different noise flags.
* **Parameter:**

1. Annual Payroll Noise Flag Parameter

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  Description automatically generated The user has the option of selecting one or all noise flags with this parameter.

**Figure 3: Interactive Chart 2**

* **BUSINESS INSIGHTS:**

1. From this bar chart shown in Figure 3, users may select many states or just one state from the State Filter which makes it easy to compare and examine the data between the states.
2. Users can easily compare data across the three distinct noise flags due to the color-coding of the noise flags, which uses blue for the G noise flag, orange for the H noise flag, and red for the J noise flag.
3. Among all the three flags, the G flag is having highest number of employments and establishments across all the states.
4. For the G noise flag, Wyoming state has the lowest employments and Vermont state has lowest number of establishments, while California state has the most as shown in Figure 4.A screenshot of a computer

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**Figure 4:Descending order of the Employment and Establishment distribution across all the states for the G Noise flag**

1. The state of California records the highest number of jobs and establishments across all the states and the three distinct noise flags.