**Note for Tableau Workbook: My Tableau (available on the below website)**

[https://public.tableau.com/profile/suchada8712#!/](https://public.tableau.com/profile/suchada8712" \l "!/)

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| **Worksheet** | **Description** | **Demonstrated features** |
| Sales and Profits Trend | This is a simple line chart for Sales and Profits.  Since the scales of the indicators are very wide, I use a dual combination chart for this purpose.  Sales are plotted on the right axis, while Profits are plotted on the left axis. | * Line chart * Dual combination chart |
| Sales and Profits (YoY Growth ) | This is a bar chart for Sales and Profits.  In order to compare the two indicators, I put them on the same scale. Bar chart is a simple chart for a quick comparison.  On this chart, I add a calculation of YoY growth using Quick Table Calculation function.  I also add an interactive feature on this chart that allows users to select which years they want to see, by clicking the filter on the right panel. | * Users can select individual or multiple years for their view * Data can be disaggregated by year * Quick Table Calculation of YoY Growth |
| Sales and Quantities | Sales are plotted on a line chart using the scale on the right axis; Quantities are plotted on a bar chart, using the scale on the left.  This worksheet shows dual combination on different types of charts.  In addition, I add Profits data in the tooltip. When users hover their mouse on the chart, they will see not only the default data for Sales and Quantities, but also the Profits data. | * Dual combination on different types of charts (line chart and bar chart, in this case) * Add Profits data in Tooltip to allow users to see more data when hovering around the chart |
| Profits Trend | I add trend line to the Profits by dragging trend from the Analytics panel to the chart. | * While dragging the trend line to the chart, Tableau will ask you for the type of trend you would like to apply to your chart (Linear, Logarithm, Exponential, Polynomial) * If you hover on the trend line, you will see the equation that allows you to manually calculate the profit estimation for the future year, as well as some statistical scores, such as R square and P value. This will allow you to decide if this model is a good fit for your data or not * If you hover on the trend line and right click to go to describe trend line, you will see additional statistical scores and standard error |
| Profits Forecast | I add analytics function into the Profits trend to allow users to see the estimated values for Profits in future years. | * Forecast function * You can change the forecast option to fit your study, by right click at the forecast line and go to the forecast option * You can view forecast details by right clicking on the forecast line and go to describe forecast |
| Profits and Losses by City | I choose to demonstrate Profits and Losses by City using Map as it will give users a good visualization in terms of geography and territory.  In addition, I layer the background black just in case you want to apply this concept to energy projects. This will give a good visual on lighting and energy access.  Also, I format the chart’s header to have Profits font in Blue and Losses font in Red. This way I do not need to describe the legend and can utilize all of the viewing area for the Map.  In addition, I format the header bold, just to show users that the header can be formatted just like when they format a letter in Microsoft Word. | * Map * Map Layer * Format circle color to reflect the accounting standard (Blue for Profits and Red for losses) * Format circle border for a better visualization * Format chart’s header |
| Cities with Top Sales | This is an interactive worksheet that allows users to select how many of the top Sales cities they want to view by inputting in the number on the right panel.  I also show the Sales data on top of the bar chart. | * Interactive worksheet * Parameter to create Top Sales cities * Create a selected set of cities that users want to view * Show Sales data on top of the bar chart |
| Cities with Top Sales and Bottom Sales | This is an interactive worksheet that allows users to select multiple sets of data to view. | * Create a combination set that allows users to select more than one sets of data that they want to view |
| Profits by Segment | I choose pack bubble chart for this purpose. The size of the bubble represents the Profits; the bigger the bubble, the more the profits.  I also put Sales in the Tooltip to give more details of the data | * Pack Bubble chart * Add more details via tooltip |
| Profits by Segment 2 | Pie chart is also a perfect chart to explain Profits disaggregated by segments.  I made adjustments to the annotations, by formatting it into a sentence, to make it more intuitive. | * Pie chart * Format annotation to make it more intuitive |
| Profits by State | This is a symbol map to show Profits by state. The darker the color, the more the profits.  I also added the Profits label to the chart. | * Symbol map * Profits label * Color from light to dark, show profit from low to high |
| Interactive Profits by State | I change the color of the states that have Profits to blue, and the state that have Losses to red- for a quick interpretation.  Also, I add interactive feature that allows users to select the state with specific Profits or a range of Profits that they want to view. | * Change state color to represent Profits (Blue) and Losses (Red) * Interactive feature allows users to select states which meet their required Profits. I moved them under Mark Card to utilize area for the Map |
| Interactive Profits by State (Viz) | This allows user to get a better view of Sales and Quantities in their interested state by just hover the mouse over that state. | * Viz in Tooltip |
| Interactive Profits by State (Detail) | I duplicate the Interactive Profits by State worksheet as cross tab and add more data.  I prepare this worksheet in order to use in an Interactive Dashboard. | * Duplicate as crosstab |
| Interactive Profits by State (Bar) | This is an interactive worksheet that allows users to select only states which are in their interest.  The shading of the color represents Profits, from low to high, as the color gets darker. | * Interactive worksheet that allows users to select states which are in their interest |
| Interactive Profit by State (Year) | This is an interactive worksheet that allows users to select only the period which are in their interest. | * Interactive worksheet that allows users to select time period of their interest |
| Dashboard 1 | This is an interactive dashboard. Users can click on the state and the table below will show data of that state.  Users can select multiple states using the control key.  In addition, I add a link to show information on the internet when users select a particular state. | * Interactive dashboard * Users can select the state on the Map, and the table below will give detailed data for the selected state * Link to external URL |
| Story 1 | This is an example of Story Board.  It is added one worksheet at a time, and it allows the developer to include a summary or key note to the worksheet in the caption section.  This is useful to explain the analysis process as the presenter walking the users through the analysis. | * Add summary of the analysis in the caption section * Add worksheets to story one by one |

\*\* Joint tables or Joint Databases are demonstrated in other files and available upon request.