

## Solution Sheet: Analyzing State-Wise Average Customer Age Using Alteryx

### Overview

This guide provides a step-by-step solution for analyzing customer demographics by calculating and visualizing the state-wise average age of customers. Using Alteryx Designer, the workflow incorporates tools for data preparation, transformation, and visualization to create a pie chart that provides actionable insights into customer demographics.

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### Step-by-Step Workflow

#### Task 1: Import Data

- Open Alteryx Designer.
  - Drag and drop the **Input Data** tool from the **Connectors** tab onto the canvas.
  - Configure the tool to import the customer details dataset into the workflow.
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#### Task 2: Remove Unnecessary Fields

- Add the **Select** tool from the **Preparation** tab to the workflow.
  - Connect the output of the **Input Data** tool to the **Select** tool.
  - Configure the tool to remove any fields that are not relevant for the analysis.
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#### Task 3: Clean Data

- Drag and drop the **Data Cleansing** tool from the **Preparation** tab onto the canvas.
  - Connect the output of the **Select** tool to the **Data Cleansing** tool.
  - Configure the tool to remove null or blank values and trim unnecessary spaces in the dataset.
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#### Task 4: Remove Duplicates

- Add the **Unique** tool from the **Preparation** tab to the workflow.

- Connect the output of the **Data Cleansing** tool to the **Unique** tool.
  - Configure the tool to identify and eliminate duplicate entries in the dataset.
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#### **Task 5: Summarize Data**

- Drag and drop the **Summarize** tool from the **Preparation** tab onto the canvas.
  - Connect the output of the **Unique** tool to the **Summarize** tool.
  - Configure the tool to calculate the **average age of customers by state**.
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#### **Task 6: Sort Data**

- Add the **Sort** tool from the **Preparation** tab to the workflow.
  - Connect the output of the **Summarize** tool to the **Sort** tool.
  - Configure the tool to sort the average age values in ascending order by state.
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#### **Task 7: Create Pie Chart**

- Drag and drop the **Interactive Chart** tool from the **Reporting** tab onto the canvas.
  - Connect the output of the **Sort** tool to the **Interactive Chart** tool.
  - Configure the tool to create a **pie chart** that displays the state-wise average customer age.
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#### **Task 8: View Results**

- Add the **Browse** tool from the **Reporting** tab to the workflow.
  - Connect the output of the **Interactive Chart** tool to the **Browse** tool.
  - Run the workflow to view the pie chart and the final results of the analysis.
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### **Conclusion**

This workflow enables efficient analysis of customer demographics, showcasing the state-wise average customer age using a pie chart. By leveraging Alteryx Designer's tools for data

cleansing, transformation, and visualization, this project helps derive meaningful insights from raw data. The process not only enhances understanding of customer demographics but also supports data-driven decision-making to improve business operations.