**Assignment: Dashboard**

**Problem Statement:**

***You have been hired by a Bank that is currently operating in Europe. The bank has asked you to help them to ease the process of analyzing its data. The management has provided with a few queries for you to solve.***

***• Create a Map chart showing the number of transactions processed in each region.***

***• Create a Pie chart displaying the percentage of each transaction processed between genders.***

***• Create a Histogram displaying the distribution of age and transactions processed.***

***• Create a Histogram displaying the distribution of balance and transactions processed.***

***• Create a Tree-map displaying the number of transactions processed within the classification of each job.***

***• Create a Dashboard using all the charts. Make use of Action Filters as it will further improve the analyzing experience for the management.***

We have "BankData" csv dataset for this assignment.

**To connect to the data:**

Under "Connect" section, we need to click on "Text file" option and browse through the folder path where the dataset exist, then click on open to load dataset into tableau desktop.

**Initial Observation:**

The dataset consists of a single table with Customer details such as Customer ID, Name, Surname, Gender, Age, Job Classification, Date Joined and Balance.

**Task 1:  Create a Map chart showing the number of transactions processed in each region.**

In order to create a Map chart, first we need the "Region" dimension as Geographic Role datatype.

By default, here "Region" dimension is "String" datatype.

To convert this "Region" dimension to "Geographic Role" datatype:

Go to "Data Source" page or "Sheet 1" page, Click on 'Abc' icon of "Region" dimension and click on "Geographic Role" then select "State/Province" option.

Lets create a map chart with "Region" dimension and "Number of Records" measure to show the no. of transactions  in each region:

step 1) Hold ctrl and select "Region" dimension and "Number of Records" measure then select "maps" (filled map) visual from Show Me section.

If the map visual on the screen shows "4 unknown" locations as shown like below:

Chart

Description automatically generated with medium confidence

step 2) Then click on that "4 unknown" text and click on "Edit Locations" in the pop up window.

Select "Country/Region" as United Kingdom as shown below:

Graphical user interface, application

Description automatically generated

Click on OK.

Now we can see the filled map visual gets displayed with recognized locations.

step 3) Change "Marks" card type as Map.

step 4) Drag and drop "Number of Records" measure on to Label under Marks card. Change the measure type from Sum to Count.

step 5) Drag and drop "Region" dimension on to Label under Marks card.

step 6) Remove "Number of Records" Color pill under Marks card. Drag and drop "Region" dimension on to Color under Marks card.

step 7) Click on Label under Marks card and click on the ... dots beside Text option and we can format font type, size and color of labels as shown below:

Graphical user interface, text, application

Description automatically generated

Here, TR indicates No. of Transactions

Now, we can see the filled map showing no. of transactions in each region as shown below:

Map

Description automatically generated

No. of Transactions(TR) in each region using Filled Map

**Insights:**

 England is leading in terms of no. of transactions. Then Scotland is leading next.

 Least  no. of transactions can be seen in Northern Ireland.

**Task 2: Create a Pie chart displaying the percentage of each transaction processed between genders.**

step 1) Hold ctrl and select "Gender" dimension and "Number of Records" measure then select pie chart visual from Show Me section.

step 2) Drag and drop "Gender" dimension and "Number of Records" measure on to Label under Marks card.

step 3) Change "Number of Records" measure type from Sum to Count under Marks card.

we can click on Colors under Marks card and change color of Gender for pie chart using "Edit Colors" option.

step 4) Right click on "CNT(Number of Records)" label pill under Marks card and click on "Quick Table Calculation" then select "Percent of Total" option.

step 5) Right click on "CNT(Number of Records)" label pill under "Marks" card and click on the "Format" option from the list.

Then "Format of % of Total CNT(Number of Records)" section gets displayed on the left side.

Under this section, click on "Pane" and under "Default" property, go to "Numbers" and select the "Percentage" and change the "Decimal places" to 0.

Now, we can see the pie chart visual showing percentage of transactions between genders:

Chart, pie chart

Description automatically generated

Percentage of Transactions (Tr) between genders using Pie Chart

**Insights:**

Transactions done by Male are comparatively more than Female.

**Task 3: Create a Histogram displaying the distribution of age and transactions processed.**

Right click on "Age" measure and make sure it is "continuous" and not discrete.

step 1) Click on "Age" measure then select histogram visual from Show Me section.

Then Age(bin) gets created along with the visual on the screen.

step 2) Right click on the "Age(bin)" and click on "Edit". Give the Size of bins as 10 and click on OK.

Fix the Age(bin) Axis:

step 3) Right click on the Age(bin) axis of the visual and click on "Edit Axis" and give the fixed range from 16 to 66 since we gave bin size as 10 and also the Age values ranges from 16 to 65.

step 4) Drag and drop "Number of Records" measure on to Label under Marks card.

Now, we can see the Histogram visual showing the distribution of age and number of transactions:

Chart, histogram

Description automatically generated

**Insights:**

 Highest no. of transactions are done by 30-40 age group customers.

 Least no. of transactions are done by 16-20 age group customers.

**Task 4: Create a Histogram displaying the distribution of balance and transactions processed.**

Right click on "Balance" measure and make sure it is "continuous" and not discrete.

step 1) Click on "Balance" measure then select histogram visual from Show Me section.

Then Balance(bin) gets created along with the visual on the screen.

step 2) Right click on the "Balance(bin)" and click on "Edit". Give the Size of bins as 10000 and click on OK.

Fix the Balance(bin) Axis:

step 3) Right click on the Balance(bin) axis of the visual and click on "Edit Axis" and give the fixed range from 10000 to 3,00,000.00 since we gave bin size as 10000 and also the Balance values ranges from 18.432 to 2,93,548.32.

step 4) Drag and drop "Number of Records" measure on to Label under Marks card.

Now, we can see the Histogram visual showing the distribution of balance and number of transactions:

Chart, bar chart, histogram

Description automatically generated

**Insights:**

 Account holders with 30k-40k balance in their accounts did more no. of transactions.

 Account holders with more than 240k did least transactions such as once or twice.

**Task 5: Create a Tree-map displaying the number of transactions processed within the classification of each job.**

In new versions of tableau, "Number of Records" measure is replaced by "dataset.ext(Count)"

For example, since my tableau version is new. For this dataset, "BankData.csv(Count)" appears under Tables section when we switch to sheet.

Here, "BankData.csv(Count)" represents "Number of Records".

So, lets create a tree map to display no. of transactions for each job classification:

step 1) Hold ctrl and select "Job Classification" dimension and "BankData.csv(Count)" measure then select tree map visual from Show Me section.

step 2) Click on Color under Marks card and click on "Edit Colors" option then select a color palette of your choice.

step 3) Drag and drop "Number of Records" measure on to Label under Marks card.

Now, we can see the tree map visual displaying the no. of transactions within the classification of each job as shown below:

Chart, treemap chart

Description automatically generated

No. of transactions for each job classification using tree map

**Task 6: Create a Dashboard using all the charts. Make use of Action Filters as it will further improve the analyzing experience for the management.**

Click on new dashboard icon and rename the dashboard page as "Transaction Analysis" or any name of your choice.

step 1) Change the "Size" as "Automatic" under Dashboard "Default" pane on the left side.

step 2) Under the same Dashboard "Default" pane, under Sheets, double click on each sheet name that will automatically fits into the dashboard.

step 3) We can change the appearance of each visual as Fit to "Entire View".

step 4) We can also adjust the visuals type as "Tiled" or "Floating".

**Action Filters:**

Action filters allows us to perform most commonly used actions such as Filter, Highlight, Go to URL and Go to Sheet.

These actions can be performed on target sheets where actions are defined on source sheets. Here actions can be initiated using "Hover", "Select" or "Menu".

Mostly used are hover and select types.

Lets apply action filters  on pie chart, tree map and age distribution histogram which effects all other visuals on the dashboard:

step 1) Click on the funnel icon of the pie chart visual. then it acts as action filter.

step 2) We can do the same for tree map and age distribution histogram visuals on dashboard.

Here "Run action on" type is "Select".

Lets use "Region-wise Transactions" map visual as action filter which effects "Distribution of balance and transactions" histogram visual specifically:

Here, except "Distribution of balance and transactions" visual, all other visuals won't be effected.

step 1) On the Dashboard page, Click on the "Dashboard" option on the top section and click on "Actions". Actions pop up window gets displayed.

step 2) In the 'Actions' pop up window, click on "Add Action" then select "Filter" option.

Give the Filter Name as "Region-wise filter".

step 3) Under Source Sheets section, uncheck all other checkboxes except "Region-wise Transaction" checkbox.

step 4) Under Target Sheets section, uncheck all other checkboxes except "Distribution of balance and transactions" visual checkbox.

Graphical user interface, text, application

Description automatically generated

Click on OK.

Lets apply "Go to sheet" action on "Distribution of Age and Transactions" visual:

Here, I created a new Target sheet "Date-wise Transactions" and implemented below steps:

step 1) On the Dashboard page, Click on the "Dashboard" option on the top section and click on "Actions". Actions pop up window gets displayed.

step 2) In the 'Actions' pop up window, click on "Add Action" then select "Go to Sheet" option.

Give the Filter Name as "GoToSheet Filter".

step 3) Under Source Sheets section, uncheck all other checkboxes except "Region-wise Transaction" checkbox.

step 4) Under Target Sheets dropdown, select "Date-wise Transactions" visual from the options.

Graphical user interface, application

Description automatically generated

Click on OK.

Lets add an image button that navigates to a specific sheet:Here I created a target sheet "Job Type and Balance" and implemented below steps:

step 1) Go to Dashboard, Under "Objects" section, click on "Navigation" then select it as Floating type object.

Note: In tableau new versions, "Button" is replaced by "Navigation" but the functionality is same.

step 2) Click on downward arrow of that button and click on "Edit Button".

Select "Job Type and Balance" option from "Navigate to" dropdown.

Keep the Button Style as Text Button.

Give the title as "Click for Job Type Analysis" or any name of your choice.

and click on OK.

That's how we can create more number of interactive action filters in the dashboard.

[Click on this link to interact with the Dashboard on tableau public profile.](https://public.tableau.com/shared/WW8QTM97T?:display_count=y&:origin=viz_share_link)