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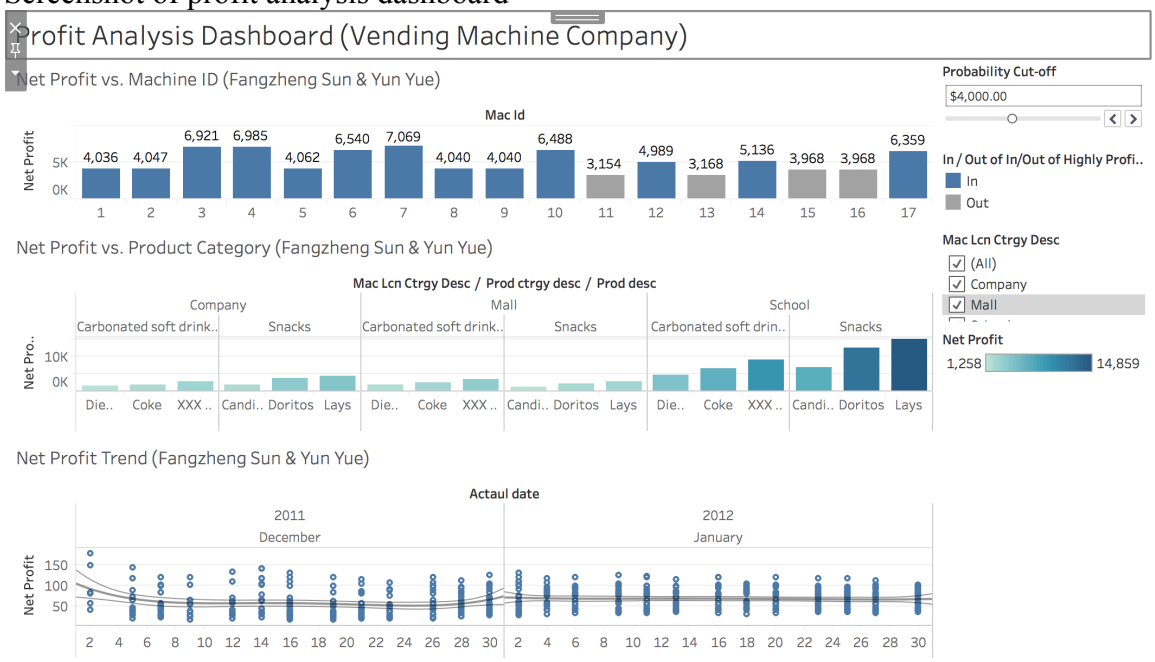
HW5 Q1

Screenshot of profit analysis dashboard



1)

Step 1: Calculate Net Profit with Tableau

Net Profit = ([Fact Restock Unit Cnt] - [Fact Stale Unit Cnt]) * [Prod price per unit] - [Fact Restock Unit Cnt] * [Prod cost per unit]

Step 2: Drag Mac Id at Columns and Drag Net Profit at Rows

Step 3: Create Set

The In/Out of Highly Profitable set is created. Edit the set by choosing >Condition>By Formula> SUM([Net Profit]) > [Probability Cut-off]

Step 4: Drag In/Out of Highly Profitable set to Marks>Color

Step 5: Create Parameters Probability Cut-off

Right click >Create>Parameter

Choose Data type: Float

Display format: Currency (standard)

Minimum: 1000

Maximum: 8000

Step size: 100

The right click Probability Cut-off show it

Step 6: Show label

Drag the Sum(Net Profit) to Marks>Label

Step 7: Change titles

2)

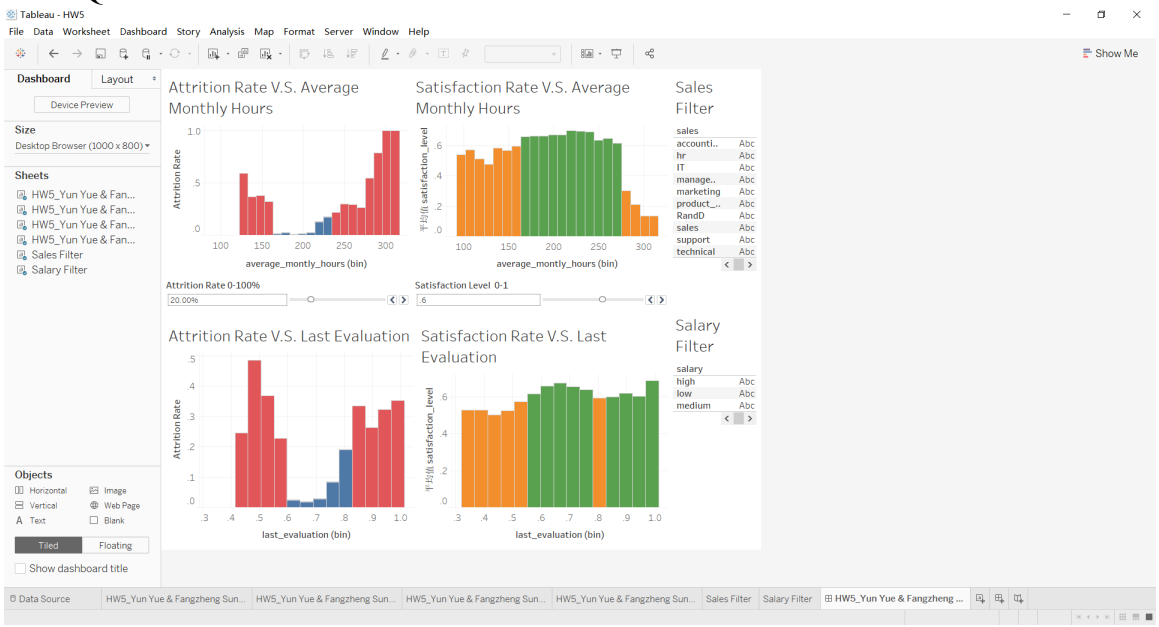
Step 1: Build hierarchy

Drag Mac Lcn Ctrgy Desc, Prod ctrgy desc, Prod desc sequently to build hierarchy
Step 2: Drag Mac Lcn Ctrgy Desc, Prod ctrgy desc, Prod desc to Columns and Net Profit to Rows to display Net Profit vs. Product Category. Click the + symbol to display subcategories.
Step 3: Drag Net Profit to Marks>Color and change the color to show Net Profit range
Step 4: Drag Net Profit to Filters and display it
Step 5: Change titles

3)
Step 1: Drag Actaul date to columns and Net Profit to Rows
Step 2: In the Marks>Shape choose circle and choose Size to make circle smaller
Step 3: Change X-Axis
Right click Columns Day and change discrete to continuous
Then right click Day header and choose Edit Axis
In General>Range>Fixed change the value from 1 to 31
In Tick Marks>Fixed choose every 2 units

Finally generate the daskboard 1

HW5 Q2



1) In this task we used *Tableau Assignment_HR_comma_sep.csv* as our dataset. And we put last_evaluation and monthly_average_hours, each one forming a histogram. To calculate the attrition rate, we simply apply the following formula to form a measure called “Attrition Rate”:
sum(int([left]=1))/COUNT([left])
Afterwards, we set a parameter called Attrition Rate Threshold based on Attration Rate, ranging from 0 to 100% (here we use 20% as the threshold) and create one set on each measure with formula:
[Attrition Rate]>[Attrition Rate Threshold]

Finally, if we drag the set to Color in mark block, the histogram will be in two colors, one representing columns greater than the threshold attrition rate value and one representing columns not reaching this threshold.

Based on the first chart generated, we found that those who are evaluated between 0.6 and 0.8 has very low attrition rates. Below this range, employees with lower evaluations are typically related to worse performance, reasonable enough to leave. What should be concerned is that the employees with high evaluations are also more likely to leave. We can somehow draw a conclusion that this company has some problem persuading valuable employees to stay working for it.

Based on the second chart generated, we found that the employees with 160-240 monthly average working hours has lowest attrition rates. Those with more than 280 hours are very likely to attrite, which is very reasonable because they are overloaded with work and given too much pressure. This should be noticed by the HR executives.

2) This time we used satisfaction rate as our measure of HRs' success. The approach is generally very similar to the first task, differences include:
   We did not create the new measure, but the formula of the set should compare the average value of satisfaction rates with the threshold:
   AVG([satisfaction_level])>[Satisfaction Level Threshold]
   The threshold is initially set to be 0.6.
   Based on the two charts, we conclude that the satisfaction rate is not that sharp as attrition rate to indicate the HRs 'work. The satisfaction level is not affected a lot by last evaluation results. On the other hand, the second chart indicates that the overloaded employees have significant lower satisfaction levels, which might explain their high attrition rates in task 1.

3) We put all 4 charts to the dashboard. Two movable bars control the two thresholds thus users are able to set the values based on their needs. Additionally, we added two filters, one on sales dimension and one on salary dimension. They affect the 4 charts simultaneously and users can only select and see the employee statues from their desired divisions and salary levels by clicking on the filters.