BUSINESS USE CASE POWER BI PROJECT

Microsoft Adventure Works Project

The AdventureWorks Database is a Microsoft product sample for an online transaction processing (OLTP) database. The AdventureWorks Database supports a fictitious, multinational manufacturing company called Adventure Works Cycles. Adventure Works Cycles is a large, multinational manufacturing company that produces and distributes metal and composite bicycles to commercial markets in North America, Europe, and Asia. Data for this project is extracted from the Microsoft Adventure Works Database.

The Business task here is to perform a companywide analysis to be presented to the leadership of the company. Leadership is interested in seeing these in the presentation:

A. Month over Month Changes
B. Overall Sales Trend
C. Top 10 profitable products
D. Breakdown of sales by product category
E. Major KPIs: Sales, Total Orders, Total Quantity to get an overview of the company's performance

1. We start by getting our excel data into power bi. We transform the data to clean up the data in the power query editor then load when ready.

   For instance, in this project, we convert order date from date/time format to date format since we only want the date portion.

1. We will then create a date table in order to help in the creation of few measures for this analysis: the measures will need continuous dates and our sales data skip few days.
   We would use the calendar function to create a date table however as it requires a start and an end date, instead of hard coding the values, we use the min and max values in the order date column in our dataset.

2. Now we format the date table newly created into month year and day by creating few columns in the table. The columns we will be creating are the year and month over month columns.

3. We will now build two measures into the date table: First measure is CM Sales for current month sales by utilizing the SUM function and PM Sales for Prior month sales by utilizing the calculate function(and the SAMEPERIODLASTYEAR Function to get the sales for the same period but prior year.

4. Before we move to the dashboard, we will create a relationship between date table and sales overview (main data). On the model tab, select the Order date from the Sales Overview data to

link it with the Date table. This will create a one-to-many relationship (because it has one row and Data table has one or more rows for the same date).

5. Now we are ready to create the dashboard, so we click on the report tab and begin.

   On our dashboard we will add some card visualizations to throw in some KPIs. In the first card, we will add CM Sales measure for the total sales amount, the second card will be for the Order count and then the last card will be for the Order Quantity.

   We will then go ahead and build the overall sales trend using the line chart: having the month over month on the X axis and the CM sales on the values field and sort it by descending.

   For the top ten products, we use the table from the visualization and add the product, CM Sales and Order Quantity and filter the product to TOP ten under the filters tab.

   Our next analysis will be on the month over month analysis and for that we use the clustered column chart: we bring the month over month on the X axis and the CM Sales and PM sales under values(Y axis) then sort on month over month and in ascending order.

   For the last visualization, We use the 100% stacked column chart: country on Y axis, product category as legend and CM sales on the X axis.

   We will add two slicers to interact with the dashboard: Year slicer and sales territory.

   Visualization is completed: We have the sales trend over the years that can be observed with the line chart, we have our top selling products, we can see month over month growth the help of the barchart and we have our sales broken down by country and category.

ALTERYX USE CASE

Arnold at Platinum Motors would like to get a better picture of his car sales from the last month. Using the provided dataset, create a report that shows the locations of the buyers, color-coded by the type of car purchased, with a legend. Underneath the report, put a table that shows the number of sales and average sale price by car type.

1. **After** data to be inputted is done.
2. **We would first create a report map:** We use the sort under the preparation palette to sort on the type of vehicle for the report map then use the browse to see the map and its legend.
3. **On the next** use the summarize under transform to group by type of vehicle, calculate the average sales price, and count the number of vehicles per type
4. **Then use the transpose under the** Transform palette to also get the structured designed before we can cross tab them into the ultimate format.
5. **Under transpose configuration: we select type of vehicle as the key column and under crosstab conf. we select name under the group data by these values: set type of vehicle as column headers to get one unique field per type of vehicle then select sum as the method of aggregation.**
6. **We add the table tool to help us create the table by taking the data points and formatting it into a table (We will format row 1 prefix of a dollar sign. (average sale price) then use the browse to view the table**
7. **We will now use the select tool under the preparation pallet to update the name of the report map to also be tabled and allow us to easily stack them vertically on top of one another use the union tool (under the join palette) to stack those data points and then the layout tool which allows us to con2figure each of these records in a vertical orientation then finally browse it to produce our output**