cv writeup

Sales Insights - Adventure Works Cycles [Power BI]

(.) Designed a Power BI dashboard to understand Adventure Works Cycles' sales trends over a three-year period.

(.) This report can assist the organisation in tracking essential business KPIs (sales, revenue, profit, and returns),

comparing regional performance, analysing product-level trends and forecasting, and identifying high-value customers,

allowing stakeholders to understand the data and make informed decisions.

(.) This dashboard could help in increasing the revenue and profit by atleast 10% in the next

year by running promotional offers on top performing products. The dashboard also shows the

top performing product in terms of highest number of orders and most profit generated to leverage the potential of the products

for the upcoming year. Loss-making items with a low order volume and a high return rate can also be discontinued in order to optimise the balance sheet.

Data Set Link : https://www.kaggle.com/datasets/ukveteran/adventure-works

For working on this project I have used the dataset from kaggel. In the 1st steps I have imported the data into power bi , cleaned the data and transformed the data in power query as per requirements. For eg. from the date table I have extracted granular informations like start of week , day name, month name, year, start of year etc. By extracting these data I can now use these data to find out yearly/monthly/weekly sales/profit/revennue/returns etc. I can also find informations on products that are sold on weekdays /weekends and so that I can run promotional offers. I also had sales of different years in different folders, which I have appended in a single table by importing a single folder . I have even used conditional column in the product table.

After doing basic transformations in the power query I then moved on to the data modeling tab for creating relationships between the table. In the data modeling tab I focused on building a normalized model to reduce data redundancy and improve data integrity . For better understanding I keep the lookup tables above the data tables so that I understand the downstream filter flow. I used 1 to many relationship with 1 way filtering to reduce complex cross filtering. Then I hide the foreign keys in the data table from report view to prevent invalid filter context.

Then I move on to creating DAX which is the formula brain of Power BI . Creating DAX helps us to visualize data in more granular way. I have divided this into 2 parts , firstly to create Calculated Columns and then creating some Measures. Calculated Columns helps to stamp fixed static values in our tables where as Measures create calculated values which only appears in the visualisation and are not stored in the table. Like in this case I wanted to catagorise customers , so I used calculated coulums to added a columns which help us in catagorizing customers behaviour based on different parametres. I even created simpliest of Measures which were available to as Implisit Measures so that I can use that in creating complex Measures. I also created some Measures to find our different parameters of our sales. In our dataset there is a seperate table for returns , so to find out the total returns I have used "Count" function . Where as in the sales table if someone orders item 1 and then item 2 , the order number stayes the same but the order inline are different . So to find the Total Volume of Orders I have used "DistinctCount" function . I have also used "ALL" function to create a Measure to calculate the % contribution of all our product catagory into sales. I have also used "Related" function to pull a data from another table . Also I have used "Time Inellegence" formula to calculate YTD revenue , previous month revenue so that the comany can be aggresive in setting target for the upcoming months.

Sales Summary(Page1):

-I created a slicer with “between” style to choose the Time Period so that users can get the sales summary for any specific time period.

-I created a Treemaps and a Stacked Bar Chart to display orders by category and subcategory separately so that users can choose the specific category and subcategory that they want to focus on. And also I edit the interactions so that when users select a specific category, all the unrelated information will be filtered out.

-I created a Matrix Table to display the product name, total orders, and return rate. I also applied the conditional formatting to return rates so that users can easily tell the item with dark background is the item that has the high return rate.

-I created a Map to display the total order by continent so that users can easily choose a continent that they are interested in.

-I created three KPI to display performance for current monthly revenue versus target revenue, monthly orders versus target orders, and monthly returns versus target returns so that users can easily track the KPI.

-I created a drillthrough so that when users hover over a product, they can switch to another page with more detailed information about this product such as profit, return volume, future profit forecast. I also made use of the What-if Parameter feature, it can help them to set a more reasonable price because users can see the adjusted profit when they change the product price.

Product Details(Page2):

- I created three gauge charts to display performace of the current monthly revenue, order vs the target for that month along with current month returns with the previous month returns.

- I also created the line chart showing weekly profit along the forecasted profit for the next 6 weeks to get better understanding of how the profit would look in the next coming weeks.

- I also created a Area chart showing weekly returns to find any sudden spike or anomalies in return for any particular product.

- I created a line chart using 'what-if parameter' to see the weekly profit difference by adjusting the price using the slider and also cretaed a multi row card that showcased the actual retail price with the adjusted price made using the slider.

Customer's Details(Page3):

-I created a Matrix Table to display the customer name, total orders, and total returns. And also I applied the conditional formatting to total revenue so that users can easily tell which customer contributed the most revenue.

-I created three Donut Charts to display the orders by gender, by income level, and by occupation and also a Treemap to display the orders by age so that users can tell which kind of customers contributed the most revenue.

-I created a Line and Clustered Column Chart to display the orders and revenue by month so that users can tell when the specific customer ordered products and how much revenue they contributed for those products.

-I created a bookmark for the first report page and inserted a right arrow so that users can easily return to the sales summary page.