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Report (2nd Assessment)

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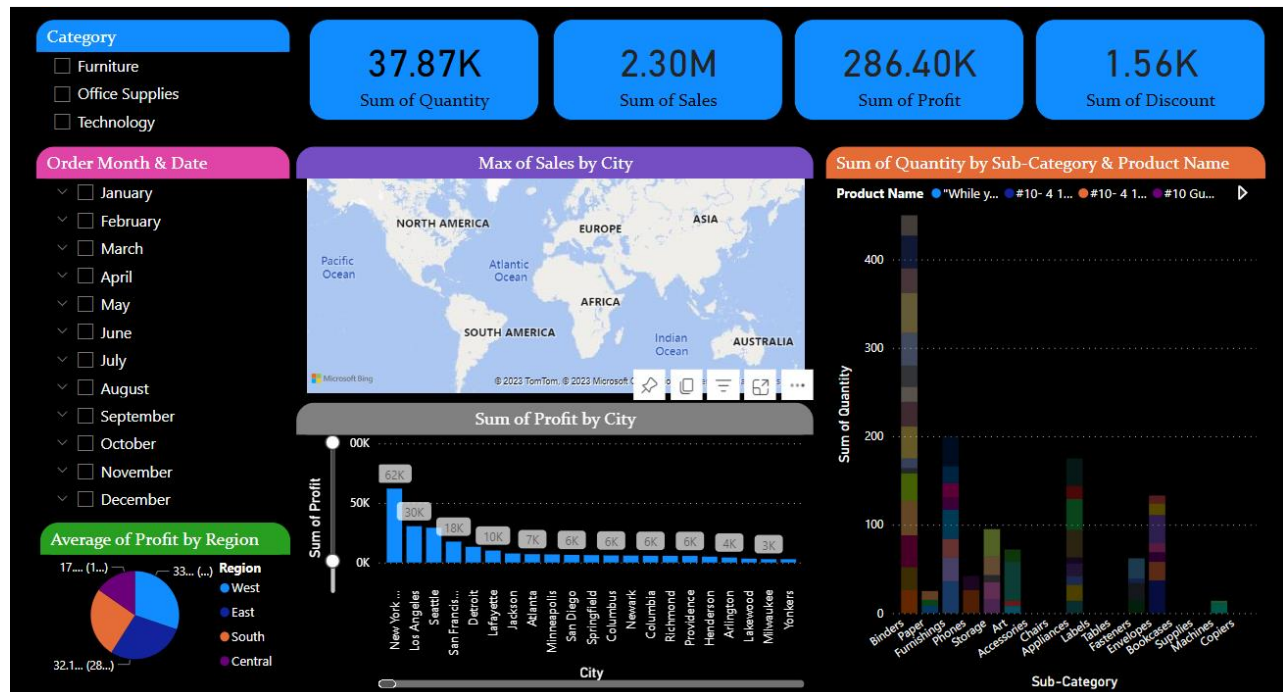
INTRODUCTION

This Report is created with the goal and intention of representing a set of data collected through a source such as MS Excel in the context in a certain Frame or two by using the application Power BI. The Data relevant to this report was collected through an Excel Spreadsheet for Annual Sales Analysis. Through Power BI we could be able to illustrate these collected datasets in the form of Images, Cards, Charts and etc. Similarly, we could also use any filtering methods to make the collected data much more specific and useful. Therefore, this Dashboard created through Power BI gives an Overall and much useful amount of data and could be understood easily as well.

As mentioned, the data collected through the Excel Spreadsheet consisted of the Orders which had the details as Category and Sub Category to identify which each product is related to. Each Product had a Product ID and Product Name. For identification purpose of the Sales by location the data sheet consisted the following City, Country, Postal Code, Region and State. To keep Track of the shipping methods the records of Ship Date, Ship Mode, Ship Month, Ship Year were collected too. Since the Ordering process is the main reliable source to calculate the Sum of Sales, Sum of Quantity, Sum of Discounts and Sum of Profits the records such as Order Date, Order ID, Order Month, Order Year have been recorded. Although the Customer Name, ID, Row ID and Segments are not much of an importance in this scenario them records too were collected for identification and simpler purposes of the Annual Sales Analysis.

With the use of Power BI, its much easier to represent the data collected through the Excel Spreadsheet in the form of Cards, slicers, Pie Charts, Maps, Stacked Column Charts and other Charts as well. The below explanations would give a certain idea of data in an Excel Spreadsheet was used to represent in a more reliable and useful manner.

01.DASHBOARD

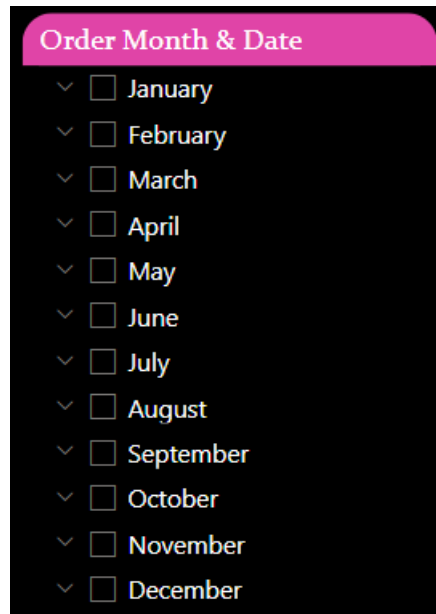


Above represented is a prototype of a Dashboard created in order to present the collected datasets through the application Power BI.

This Dashboard Consists of 10 different critical features which improves and provide effective data analysis which a Dashboard must provide. Such as;

1. A slicer that offers a high-level overview of sales performance over time and allows you to adjust the order date using months and a slicer that offers the categories to be chosen.
2. Cards that give a rapid snapshot of the overall performance by showing the total sales, total profit, total quantity and total discount.
3. A map visualization that aids in pinpointing the dataset's cities with the highest sales.
4. A pie chart that shows the average profit by region, enabling you to study the data by place.
5. A stacked column chart that displays the quantity totaled by subcategory and offers insights into the sales patterns of various products.
6. A 100% Stacked Column Chart to represent the Sum of Profit by the differentiation of cities.

02.ORDER MONTH & DATE



According to the collected datasets in the Excel Spreadsheet it includes details related to Annual Sales.

As displayed above this section in the Dashboard was added through a Slicer with the Title Order Month and Date for the users' purpose to filter each data representing mechanism/ chart by months of the year and each day of the month.

Accordingly, The Cards of Sum of Quantity, Sum of Sales, Sum of Profit and Sum of Discount, The Maximum number of Sales by City, The Average Profit according to the Region, The Sum of Quantity of Sub-Category and Product Name and Sum of Profit by City will adjust as the user chooses any month or date within that slicer.

03.TOTAL OF SALES, PROFIT, QUANTITY AND DISCOUNT



The following cards displayed above represents the Total of the datasets collected such as the;

The Total of Quantity: - This represents the total quantity which has been sold according to the Excel sheet for the whole year.

The Total of Sales: - This represents the total Sales which has been made according to the Excel sheet for the whole year.

The Total Profits: - This represents the total Profits gained by selling goods according to the Excel sheet for the whole year.

The Total of Discounts: - This represents the total amount of discounts given for the sales according to the Excel sheet for the whole year.

These Cards give an overview of the Overall Performance made by the business which makes it more reliable, understandable and appealing to the eye of the user as he/ she could give an quick update of each aspect within seconds.

04.MAXIMUM NUMBER OF SALES BY CITY



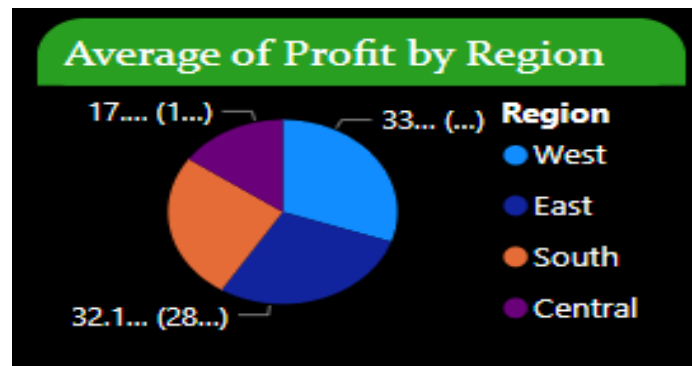
As presented above the Map of the world is a resource which could immediately and simply find the best performing cities according to the datasets which have been recorded on the Excel Spreadsheet through the graphics of the map.

Through this prototype dashboard we can identify the worldwide distribution of sales and see any geographical trends or patterns that might be affecting the sales performance by displaying the data on a map.

Overall, displaying the cities with the highest sales on a map in a dashboard is a useful way to analyze sales data and spot areas for improvement.

We can also gain many insights from the data by visualizing it in this way that We might not have uncovered from common data in tables. It can then use these insights to guide Our marketing plan and support business growth.

05.AVERAGE PROFIT ACCORDING EACH REGION



As depicted above this Power BI dashboard consist of a data visualization/ mechanism which gives a quick idea of the data and also presents an appealing form for the user.

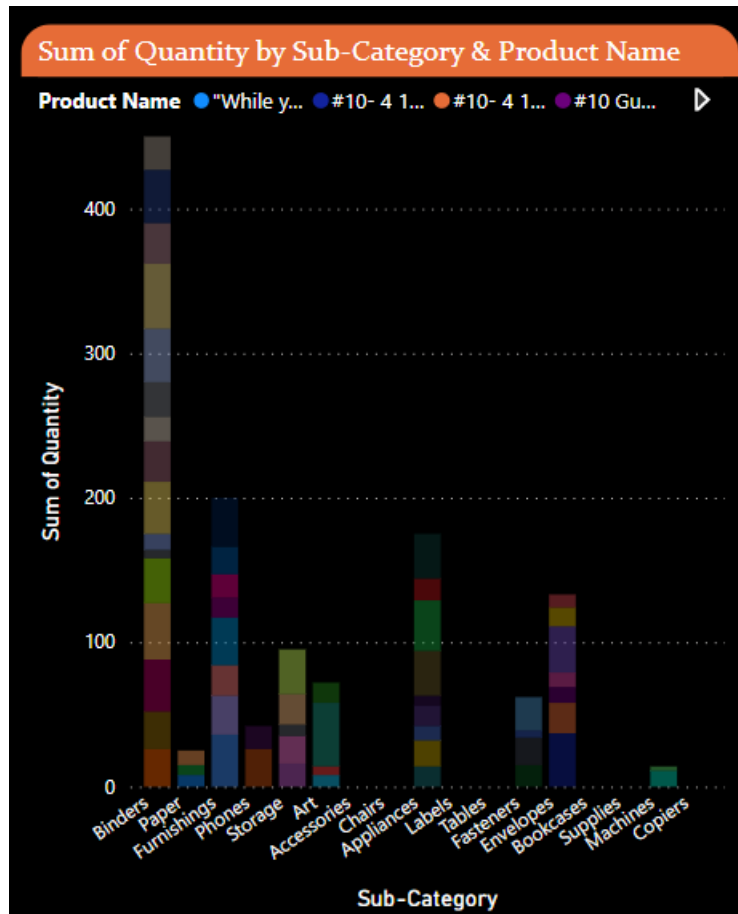
This Data Visualization method is represented by a pie chart which includes the Average of the Profit and each region such as (West, East, South and Central).

Each slice of the Pie chart depicts the Average of the total Profit of the year for all the categories and sub-categories as well.

According to the above Pie Chart the Highest Average profit is indicated by the Dark Blue slice of the Pie Chart which the East Region and the Lowest is indicated by the purple slice which Is the Central Region.

Since there are not much of regions it is ideal for this sort of data to be represented through a Pie Chart if there are more than 6 categories (Regions) the pie chart would not be as effective as it should be.

06.SUM OF QUANTITY BY SUB-CATEGORY AND PRODUCT NAME



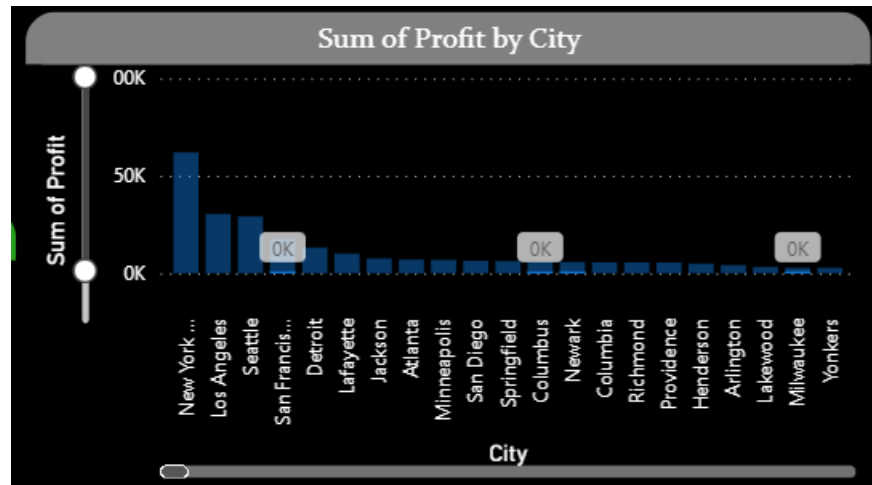
This above Stacked Column Chart includes three main sets of data which is the sub category of each product, the product name and quantity of each.

According to the above chart we see all the sub categories have been listed horizontally and the quantities are listed vertically in times of 100's.

Above the chart we are able to see each name of every product which is to be sold or sold already with a relevant color coordination. This Color coordination could be seen within the chart as well.

When each color is selected the Card which depicts the sum of Quantity is updated instantly as mentioned earlier.

07.SUM OF PROFIT BY CITY



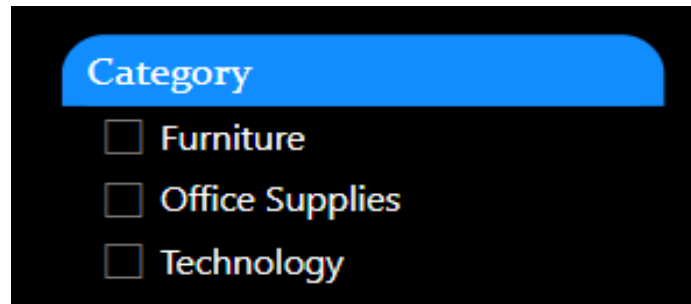
Additionally, another critical feature was added in order to Calculate the Profit City wise which includes the datasets Profit and Cities.

In the above chart Cities are represented horizontally and can be scrolled down till the end and the Total sum of Profits are depicted by the Vertical axis by time of 50K and also could be zoomed in.

This Is much similar too the Graphic map feature added but the only difference is through this 100% Stacked Column Chart we would be able to identify the Cities which have been gaining better profits for a certain month or even a single day.

We could use this chart to improve the gain of profits by identifying where and what should be sold in each city to gain more and to improve the business activities.

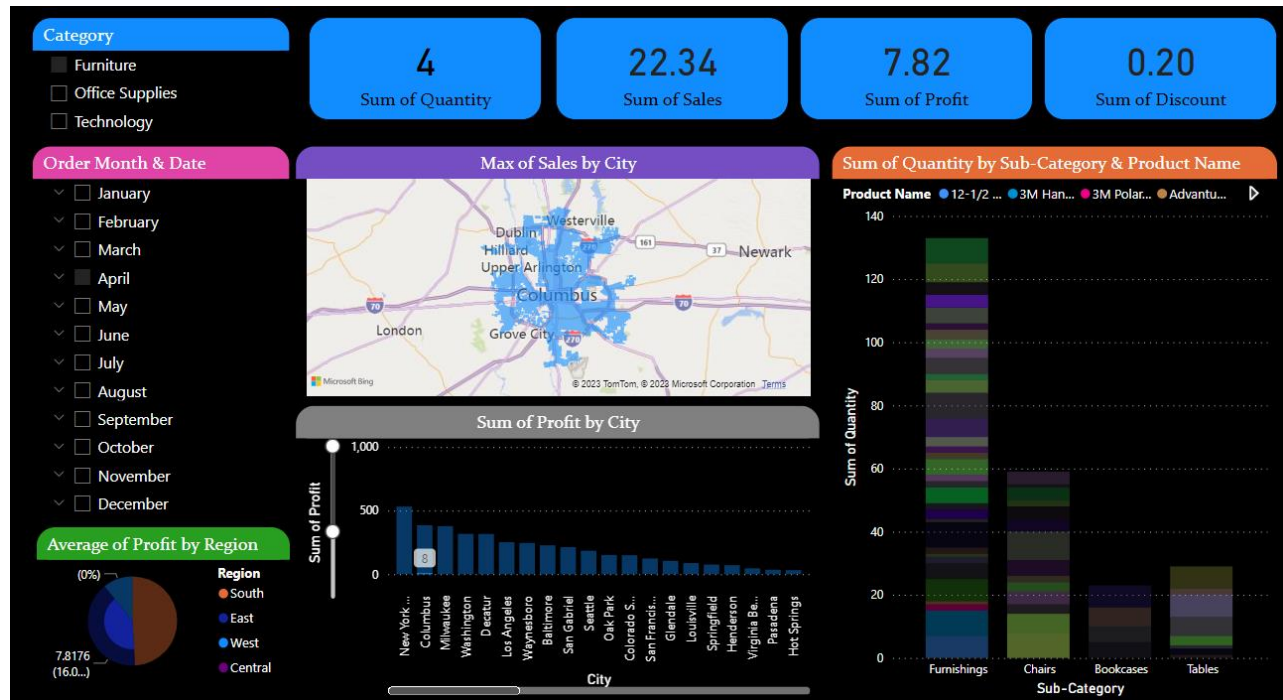
08.CATEGORIES



The following too is an additional add on as a critiacl feature since all theSub categoris and products are only broken doen to 3 Main Categories its much more practical to add this in a slicer and short list the subcategories as well as the products so that the whole dashboard would look unfilterd and not much appealing to the eye.

Also since this a feature which would not complicate the user and is more undersatndble it could be considerd as a much suitable feature for the Dashboard.

09.EXAMPLE OF DASHBOARD



The Dashboard above represents all the features mentioned in each topic earlier and has been filtered and made every single Data Visualizing Mechanism to a use.

Below is the link for the Power BI Dashboard which I, Janindu Ratnayake (COHNDIS221F-015) completed.

https://app.powerbi.com/links/1QYmhuJwX3?ctid=a6ec0f1c-2a34-41a9-ad11-2275a4888497&pbi_source=linkShare