Data Warehouses – Lab. 08

Wroclaw University of Science and Technology, Date: 11 May 2022

Student:	---	Grade
Identifier	<u>245784</u>	
First name	<u>Rahul</u>	
Last name	<u>Vijayvargiya</u>	

This laboratory assignment consists of 1 task. If you cannot solve the task, try to give at least a partial solution or justification for the reason for the lack of a solution.

Task 1

Data source: AdventureWorksDW2019 (2017)

Develop sample analytical models (dimensional models) intended for traditional sales analyzes (Reseller sales), using the data source:

1.1. Present analytical models in the form of UML class diagrams, justifying the choice of measures and dimensions (what the proposed contexts of fact analysis are to serve)

Solution:

• Dim product:

We nee this because, to identify producy, which product sells the most, price and amount of product

• DimReseller: We need to analyze which reseller is selling the most, and from where the most reseller are opreating, which country has the highest no. Of exporters

And to find the which product sold the most, and which product to popular

• DimSalesTeritory: this dimension basically tells us group and country name.

• DimCurrency: this table has only one attribute called currency name and its used for analyzing which currency has more demand and maybe company should focus on buying respective currency.

• DimDate: another vital analysis dimension it has attribute year quarter month name and week. • FactResellerSales: the main table of analysis with measure discount amount, sales amount and orderquantity. The main motive for this measures where knowing sales amount in each region,order quantity in each day of week and discount amount for knowing if it effect orderquantity
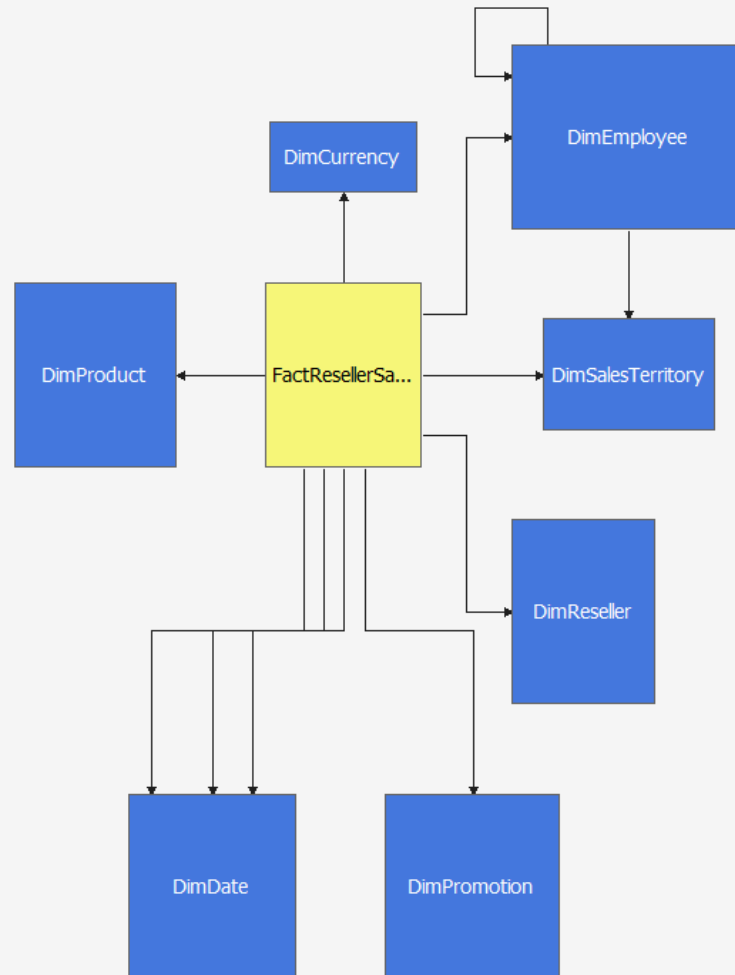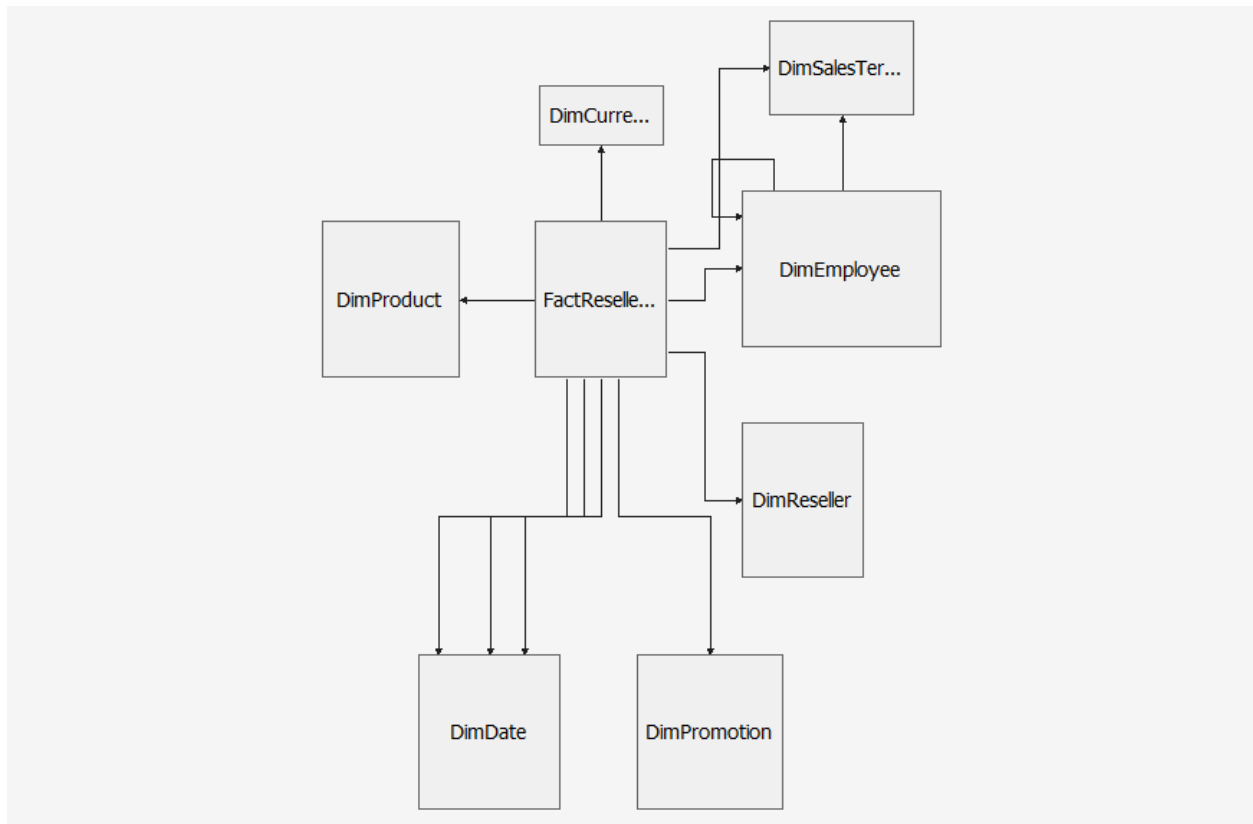
We Use Adventure Works 2019 in the data sources and

We select fact reseller and measures next

We successfully created a cube and dimensions as you can see below

Deployment successfully our project

Develop ▾   Default

Deployment Progress - DW_Final_Lab08   ▾ ▢ ✕

Server : DESKTOP-F4C1709\DWBYRAHUL
Database : DW_Final_Lab08

Command

Status:

✓ **Deployment Completed Successfully**

ube [Design]   📌 ✕

nension Usage   📇 Calculation

✕ ⬆ ⬇ | 🖼 🗷 | 🗐

Data Source View

Dimensions

◈ Adventure Works DW2019
⊞ 🗐 Dim Sales Territory
⊞ 🗐 Dim Currency
⊞ 🗐 Dim Product
⊞ 🗐 Ship Date
⊞ 🗐 Order Date
⊞ 🗐 Due Date
⊞ 🗐 Dim Reseller

◀

Output

Show output from: Build

```
Generating deployment script...
    Add Database DW_Final_Lab08
Done
Sending deployment script to the server...
Done
Deploy complete -- 0 errors, 0 warnings
========== Deploy: 1 succeeded, 0 failed, 0 s
```

Error List   Output

Process Database - DW_Final_Lab08

Object list:

Object Name	Type
🗐 DW_Final_Lab08	Database

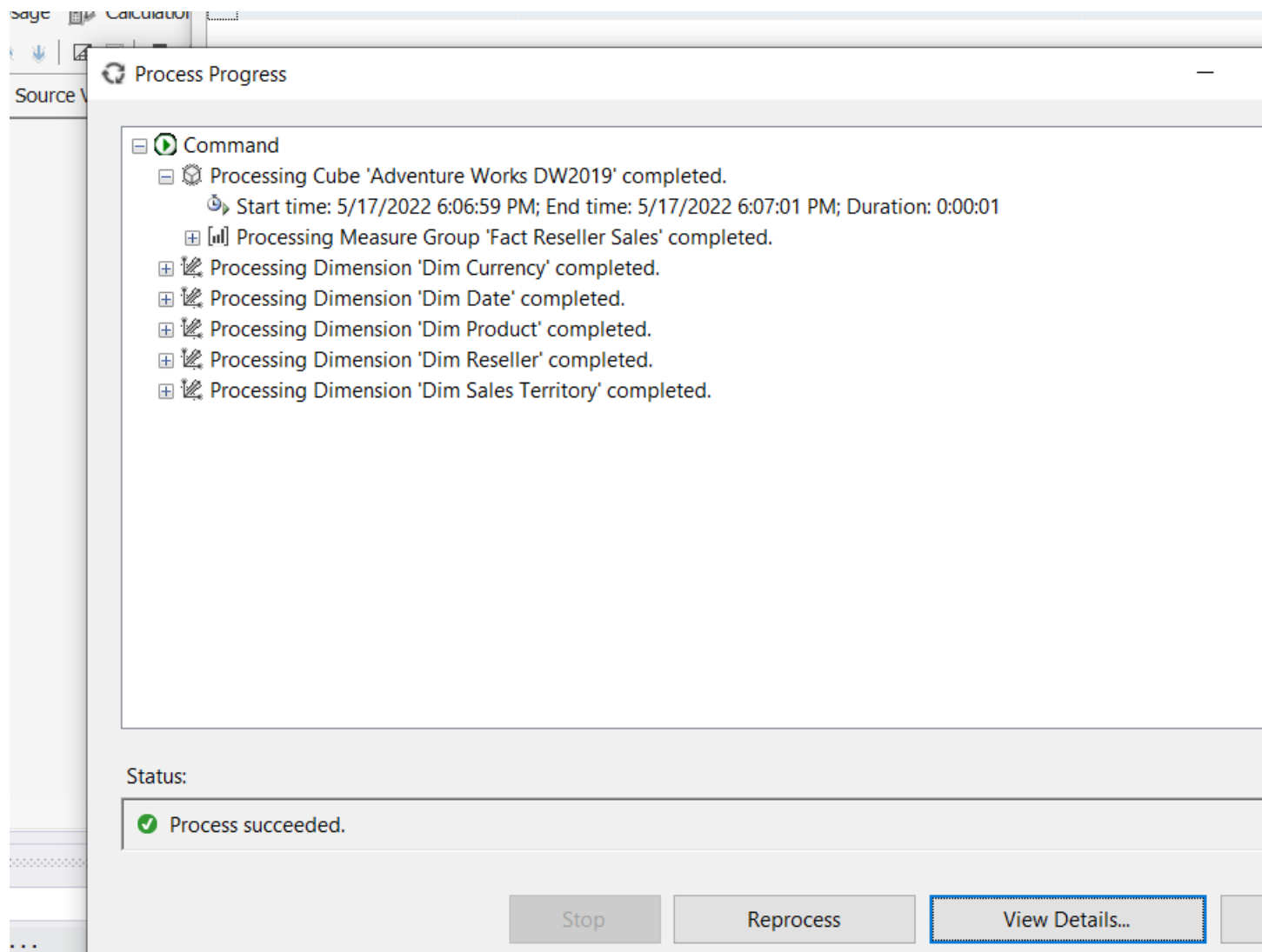**Batch Settings Summary**

Processing order:

Parallel

Transaction mode:

(Default)

Dimension errors:

(Default)

Dimension key error log path :

(Default)

Process affected objects:

Do not process

Process Progress

Command
  Processing Cube 'Adventure Works DW2019' completed.
    Start time: 5/17/2022 6:06:59 PM; End time: 5/17/2022 6:07:01 PM; Duration: 0:00:01
    Processing Measure Group 'Fact Reseller Sales' completed.
  Processing Dimension 'Dim Currency' completed.
  Processing Dimension 'Dim Date' completed.
  Processing Dimension 'Dim Product' completed.
  Processing Dimension 'Dim Reseller' completed.
  Processing Dimension 'Dim Sales Territory' completed.

Status:

  ✓ Process succeeded.

  [Stop]   [Reprocess]   [View Details...]

1.2.   Propose exemplary data analyzes (examples of report analyzes in graphic form using Excel or Tableau) and conclusions resulting from the data analysis.
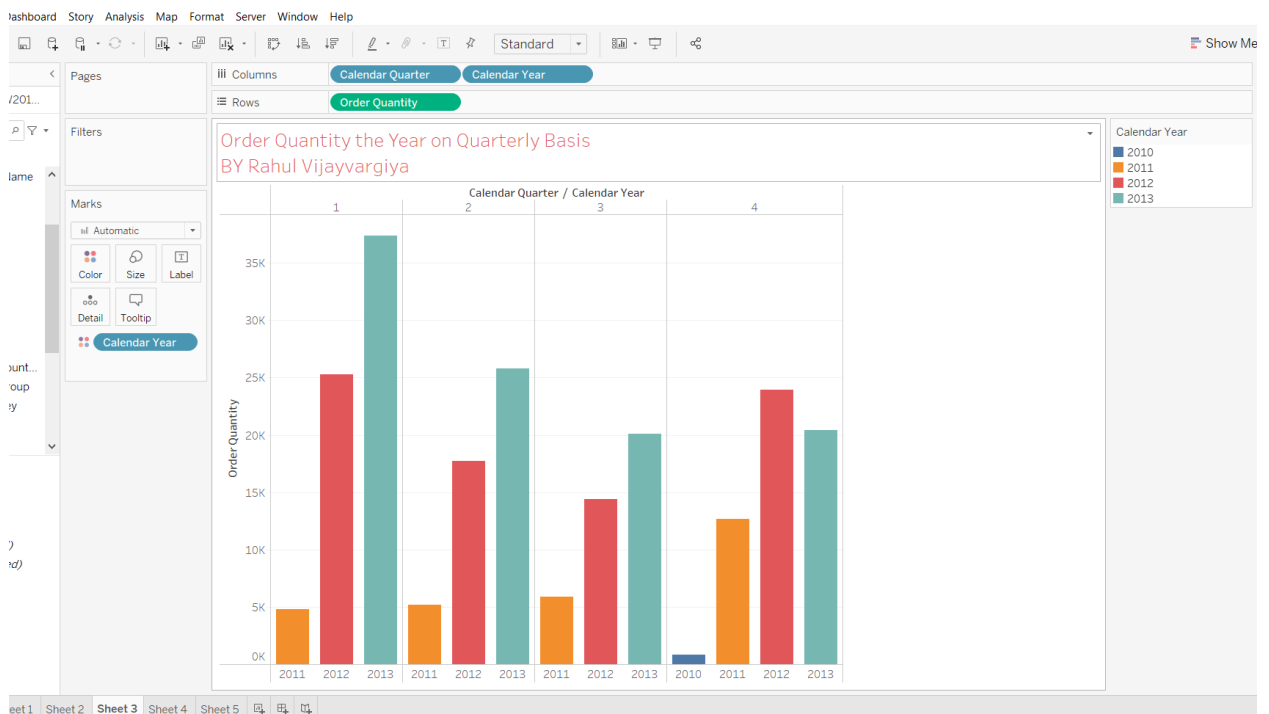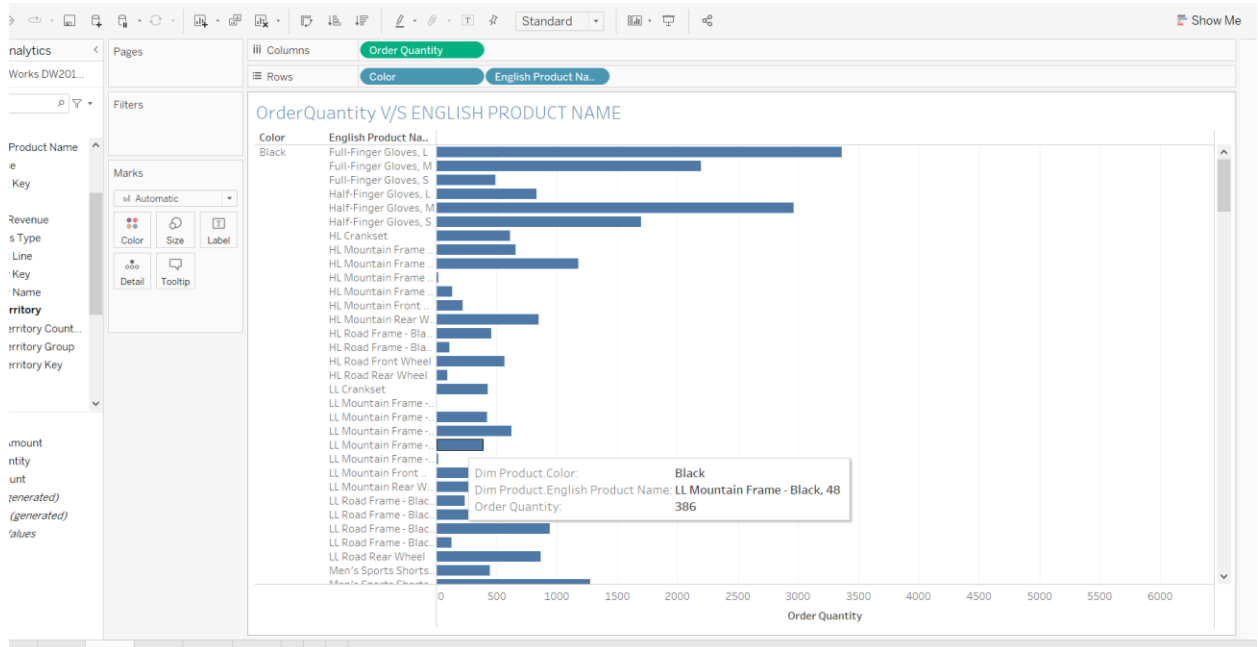
Solution:

Following Analysis of Currency types v/s Sales amount in Excel
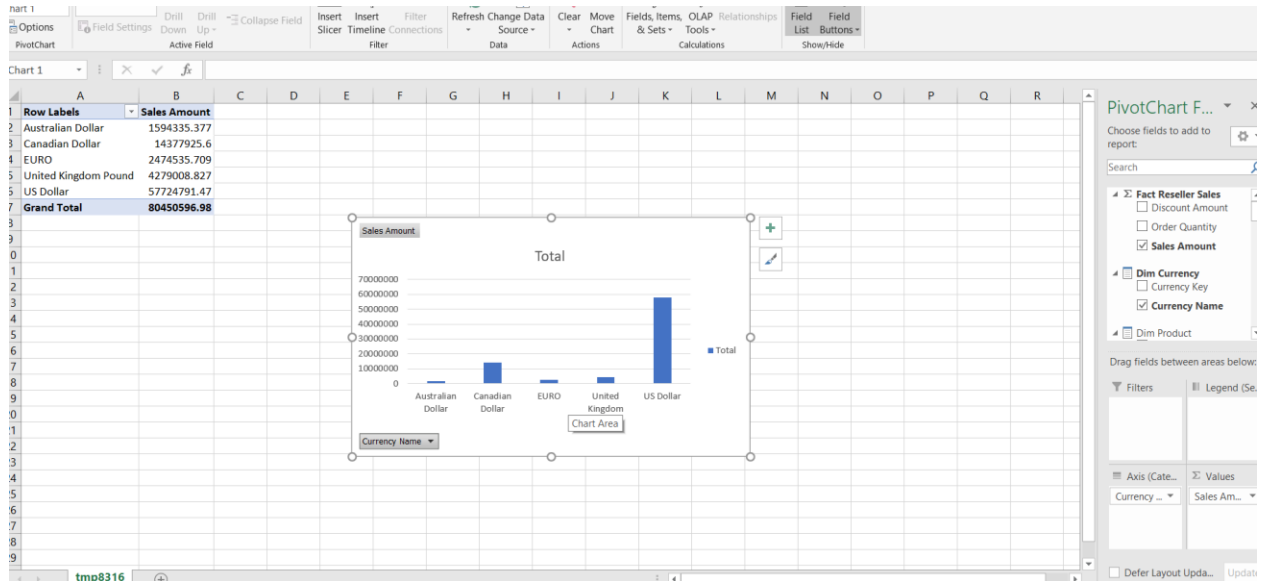
Following Analysis is Sales as per country over the years as per sales territory group in Tableau
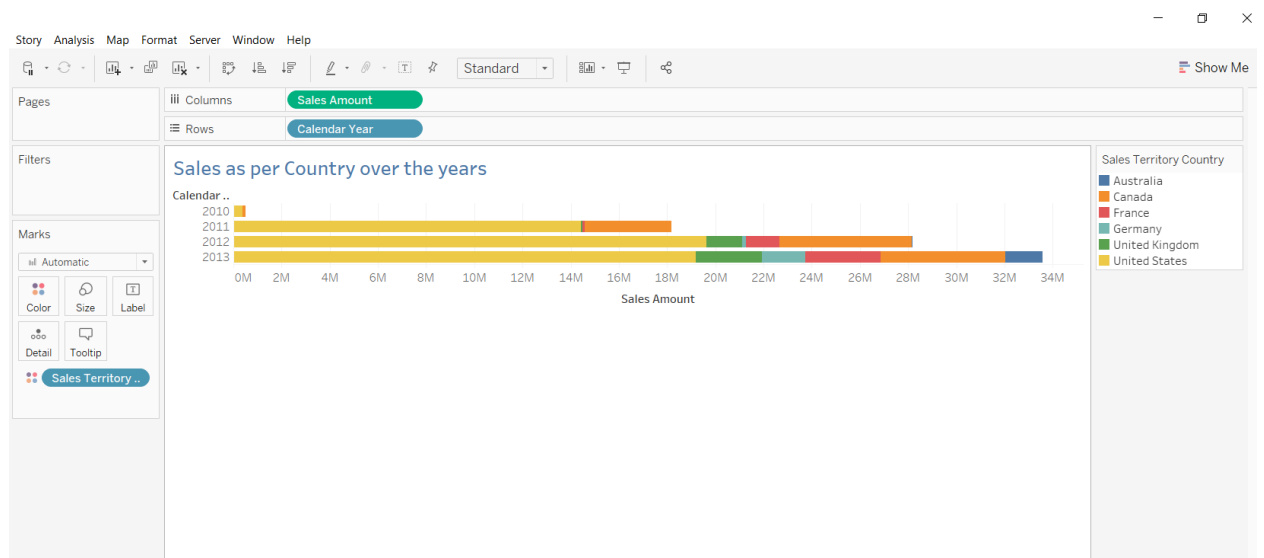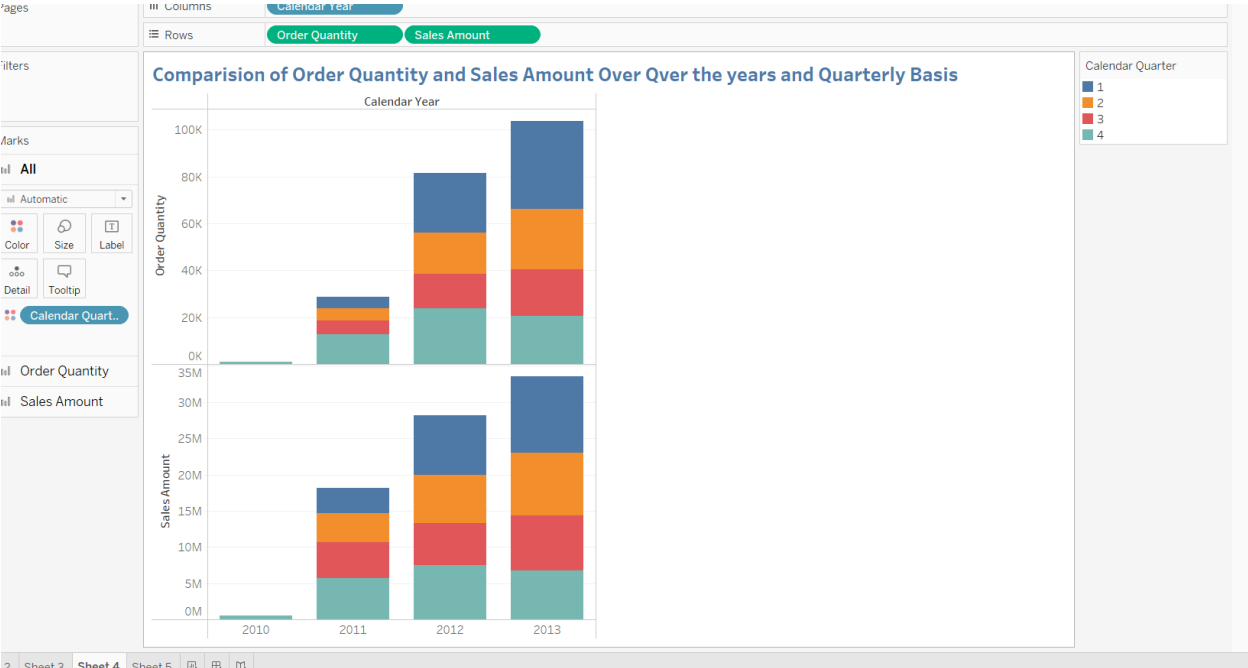
Order Quantity V/S English Product name, to find which product sales the most
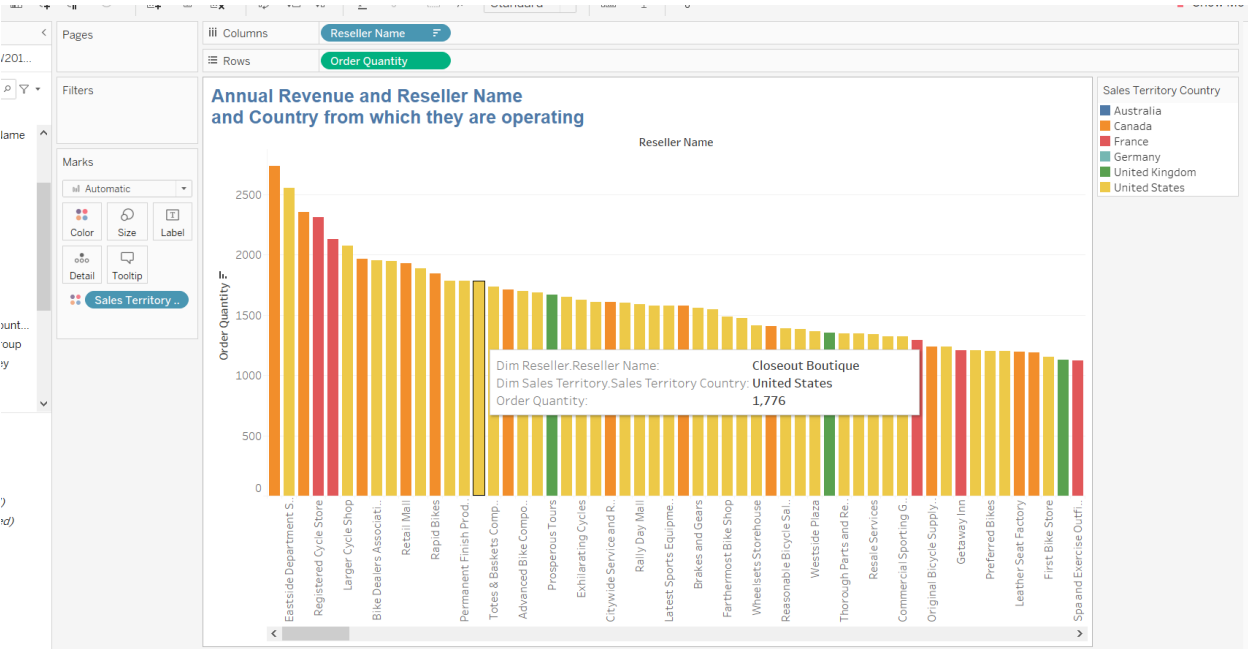
Comparisons of order quantity and sales amount over the years and quarterly analysis

Following tableau sheet contain annual revenue and reseller name

According to country

Following sheet contain all the measures as per year and quarter

iii Columns   Measure Names

≡ Rows   Calendar Quarter   Calendar Year

Over Year Quartly Sales Amount, Discount Amount, Order Quantity

Calendar..	Calendar..	Sales Amou..	Discount A..	Order Quan..
1	2011	3,549,026	2,213	4,807
	2012	8,288,704	26,063	25,267
	2013	10,542,661	210,576	37,370
2	2011	4,027,080	2,113	5,208
	2012	6,556,571	5,247	17,705
	2013	8,656,657	15,005	25,795
3	2011	4,952,086	234	5,886
	2012	5,814,080	4,743	14,419
	2013	7,644,680	12,601	20,100
4	2010	489,329	0	820
	2011	5,664,610	153,931	12,671
	2012	7,534,276	67,812	23,937
	2013	6,730,836	26,970	20,393

An Interactive Dashboard, using filter to change the view
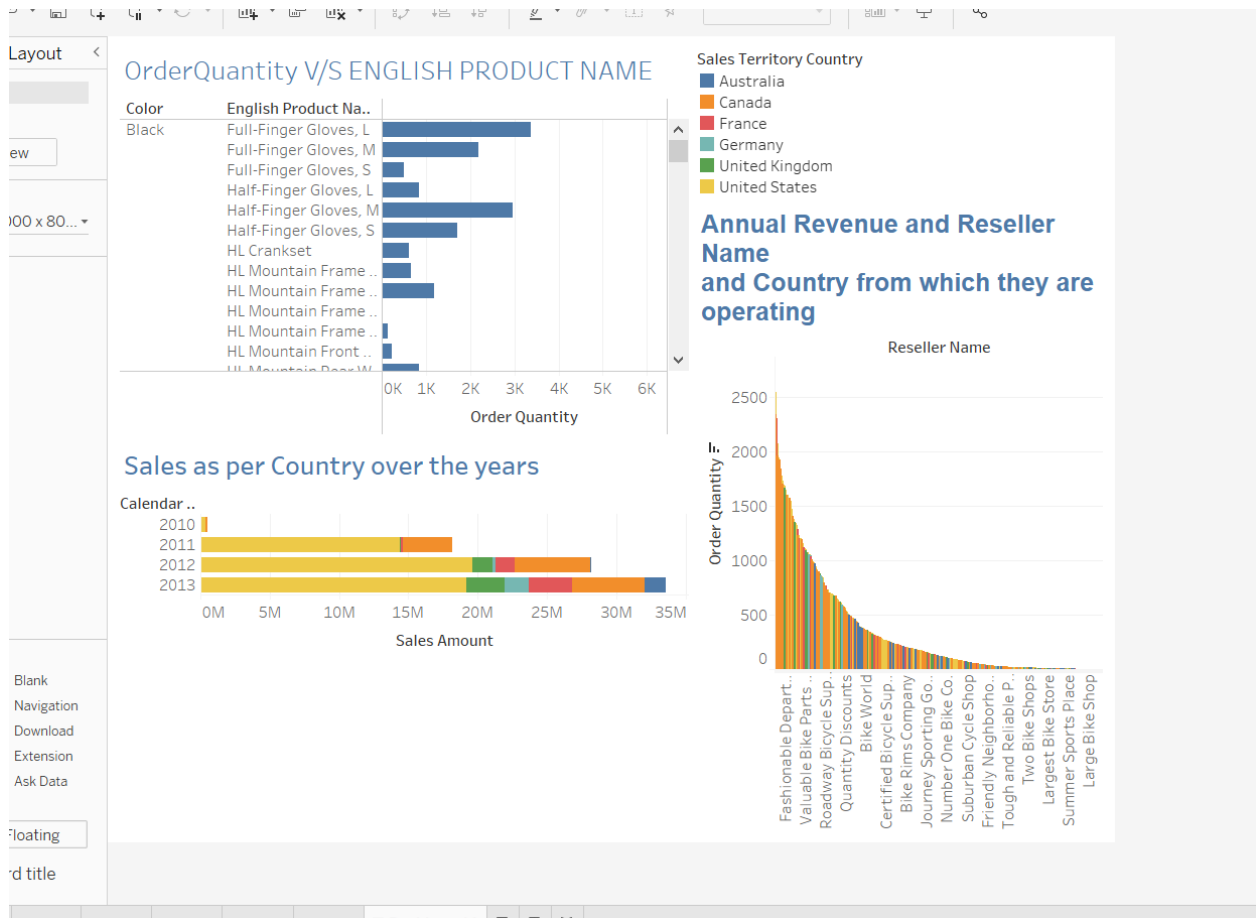
1.3.   Propose a strategy for selling goods, taking into account the profitability of sales and the effectiveness of promotional and advertising activities

Solution:

• what I have observed we should focus on building more analytical database, it's easy to analyze data, we can get in depth idea about data .

• From observation made on currency we found the US Doller has the most sales orders and it's popular currency

• From observation made on currency we found over the years product sales has increased

• From observation made we found most reseller are from USA

• From observation made eastside department has the most annual revenu

• We should focus more on Europe as over Australia because of the fact that Europe is better market than Australia as uk,France and Germany comes together which makes sales amount significantly higher than Australia.

• Also we should consider the fact that black colored products are more popular on compared to silver/black and white we can increase promotion on white colored product to boost the sales

GENERAL CONCLUSIONS:

Use this section to provide your general conclusions:

I have found the my SSMS in Analysis Service it was default set to Tabular mode, I had to change it to multidimensional

To deploy the cube had face a lot problem but it made life easy, I can get my hands-on data easily,

data cubes and dimension so that we can analyze in excel or tableau i used tableau and excel both,

I created an interactive dashboard with filters, when we click on something it changes the view for whole dashboard,

REMARKS

- *A report without final conclusions will not be checked and results in a negative score!*
- *The report file should be named **Lab08DW-StudentID-Last name-2022**, please use the PDF format.*
- *You should use MS SQL SERVER 2019 (or 2017), Visual Studio, Excel, and Tableau Desktop (available at https://www.tableau.com/academic/students)*