



# Tech Saksham

Case Study Report

Data Analytics with Power BI

" Supply Chain Analysis Of Inventories"

"College Name"

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## **INTRODUCTION**

### **POWER BI:**

POWER BI is a collection of software services, and connectors that work together to turn your unrelated sources of data into coherent, visually immersive, and interactive insights. Your data might be an Excel spreadsheet, or a collection of cloud-based and on-premises hybrid data warehouses. POWER BI lets you easily connect to your data sources, visualize and discover what's important, and share that with anyone or everyone.

you want.

## **POWER QUERY EDITOR:**

### **\*POWER QUERY:**

This is a data connection technology that enables you to discover, connect, combine, and refine data across a wide variety of sources.

## **SOFTWARE REQUIREMENTS:**

### **\*POWER BI DESKTOP:**

This is a Windows application that you can use to create reports and publish them to POWER BI.

### **\*POWER BI SERVICE:**

This is an online SaaS(Software as a Service) service that you use to publish report, create new dashboards, on the go.

### **\*POWER BI MOBILE:**

This is a mobile application that you can use to access your reports and dashboards on the go.

\*POWER QUERY is a data transformation and data preparation engine. POWER QUERY comes with a graphical interface for getting data from sources and a POWER QUERY Editor for applying transformations. Because the engine is available in

many products and services, the destination where the data will be stored depends on where POWER QUERY was used. Using POWER QUERY, you can perform the extract, and load (ETL)processing of data.

The POWER QUERY Editor is the primary data preparation experience, where you can connect to a wide range of data sources and apply hundreds of different data transformation by previewing data and selecting transformations from the UL. These data transformation capabilities are across all data sources, whatever the underlying data sources limitations.

When you create a new transformation step by interacting with the components of the POWER QUERY interface, POWER QUERY automatically creates M code required to do the transformation so you don't need to write any code.

Currently, two POWER QUERY experiences are available:

POWER QUERY ONLINE-Found in integrations such as POWER BI dataflows, Microsoft power platform dataflows azure data factory wrangling dataflows, and many more that provide the experience through an online web page.

**POWER QUERY FOR DESKTOP** -Found in integrations such as POWER QUERY for Excel and POWER BI Desktop.

**NOTE:**

Although two POWER QUERY experiences exists, they both provide almost the same user experience in every scenario.

## **TRANSFORMATION**

The transformation engine in POWER QUERY includes many prebuilt transformation functions that can be used through the graphical interface of the POWER QUERYEdotpr. These transformations can be as simple as removing a column or filtering rows, or as common as using the first row as a table header. There are also advanced transformations options such as merge, append, group by, pivot, and unpivot.



## USER INTERFACE:

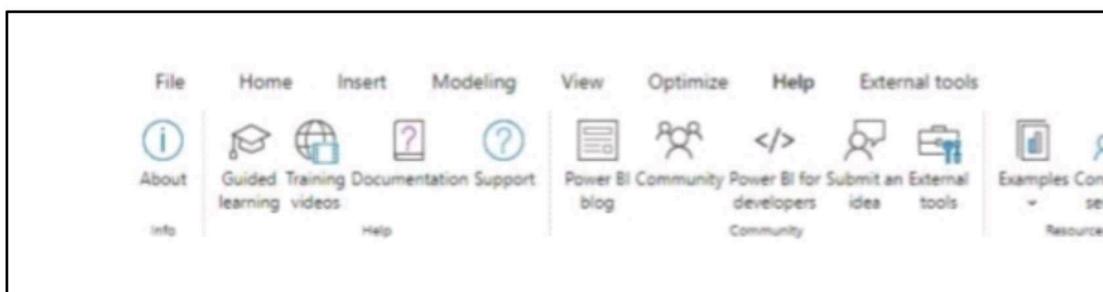
### THE RIBBON:

At the top we have the familiar microsoft Ribbon. Just like the ribbon in Microsoft Excel and Word and Powerpoint, the Powerpoint, the Power BI ribbons is filled with tools split up into different tabs.

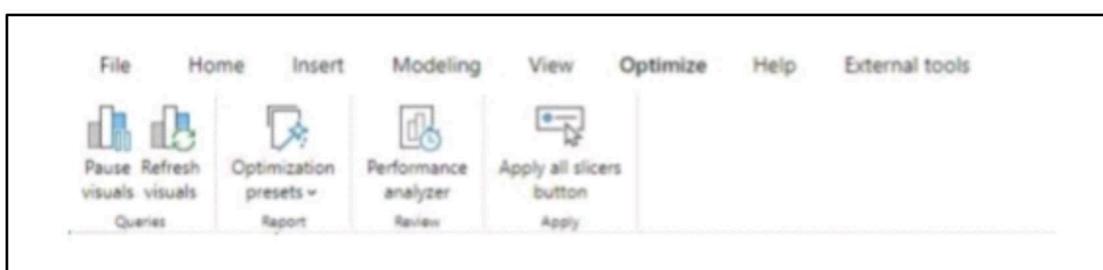
### THE RIBBON TABS:

The HOME tab has tools for adding data sources, accessing power Query Editor( used for cleaning and transformation data) via the "Transform data" buttons, and adding in visuals and

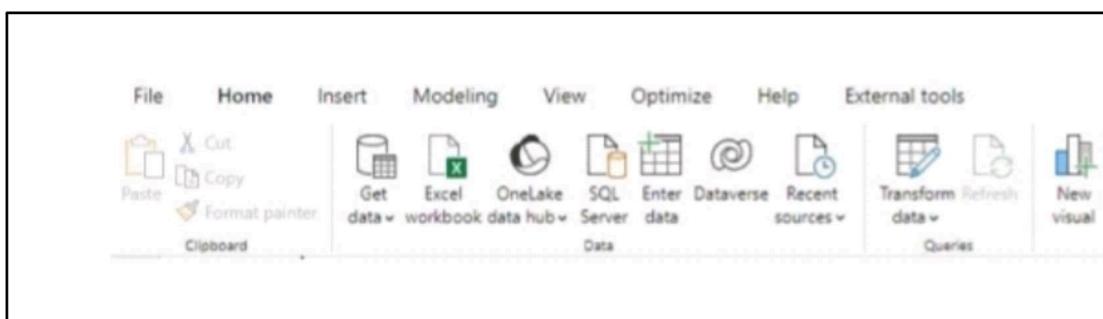
more.



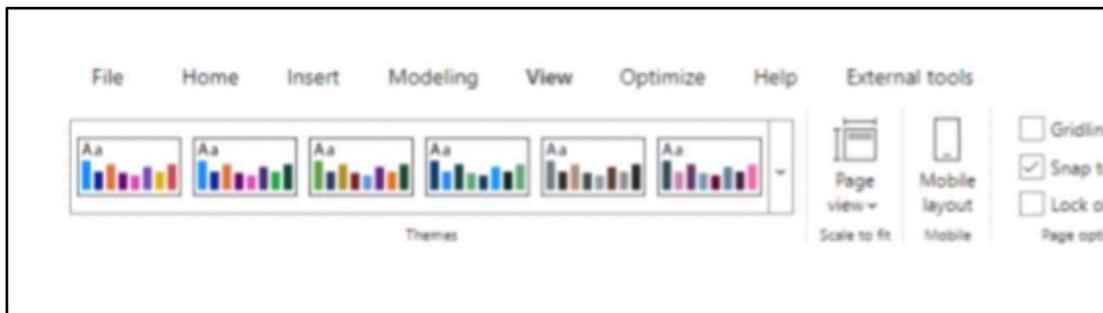
The External Tools tab is where 3rd-party tools by Microsoft, and if you haven't download one, this tab doesn't show up.



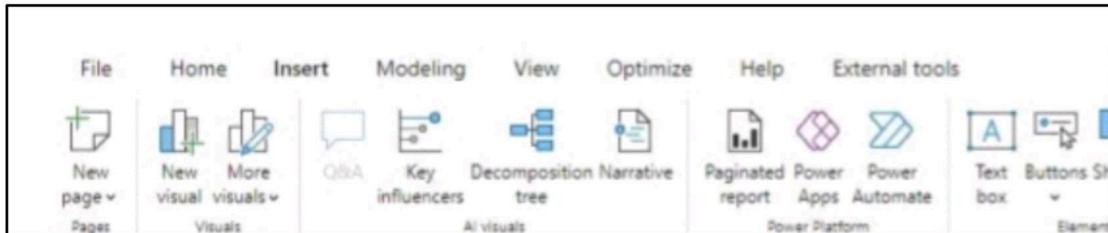
The HELP tab has links to things like Microsoft forums power BI blog which has new about new features.



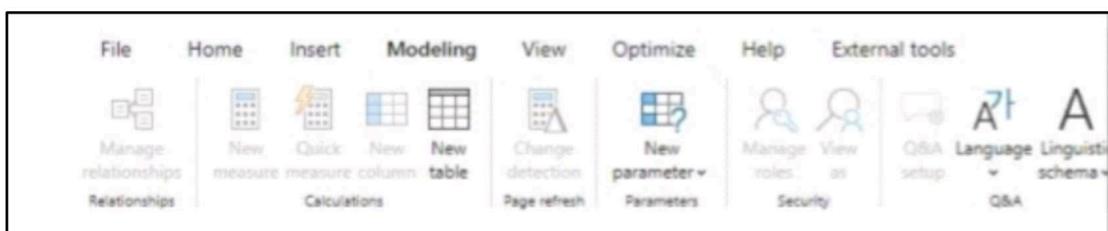
The INSERT tab lets us insert different visuals, text boxes, buttons, shapes and images.



The OPTIMIZE tab has tools to check the efficiency of our reports... as in if they are loading really slow, we can analyse what parts of the report are loading really slowly.



The Modeling tab lets us create DAX measures, or even new columns and tables, and also let us set up a security model if we need some users to only see some data.



The View tab lets us set a theme for our reports, set up mobile layouts, and access other panes that don't show up by default.

## PANES:

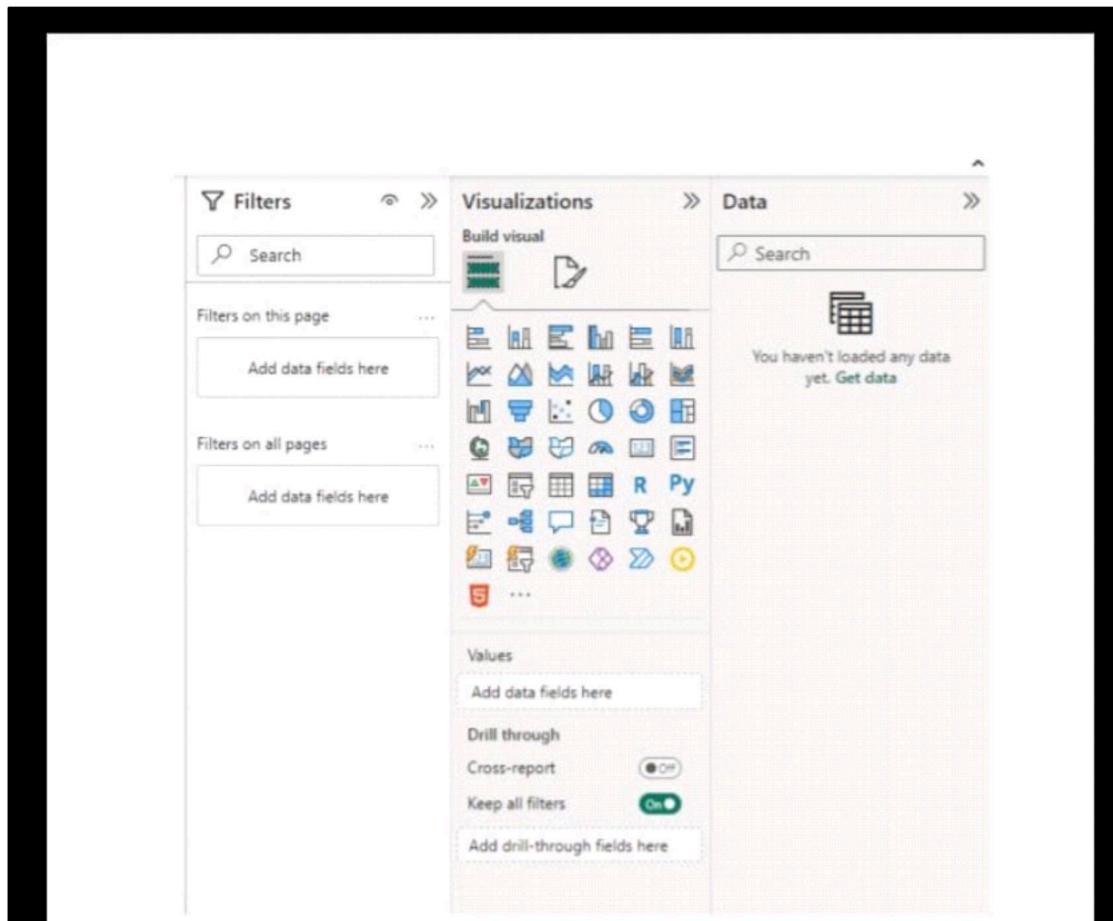
On the right side of the power BI interface are 3 appear by default.

The DATA pane is where we see the tables and columns of data we've added.

The VISUALIZATION pane is where we can choose what visual we want to make, and it also has formating tools.

The FILTERS pane is where we can create filters

and control what data is making it from our data to the visuals on our Canvas.



## ABOUT MY PROJECT:

Supply Chain Management practice is the handling of the entire production flow of goods and services that includes all process for converting raw materials into final products. It involves the active streamlining of a business's supply side activities to maximize customers value and gain a competitive advantage in the market.

Supply Chain Management encompasses the planning and management of all activities involved in sourcing.

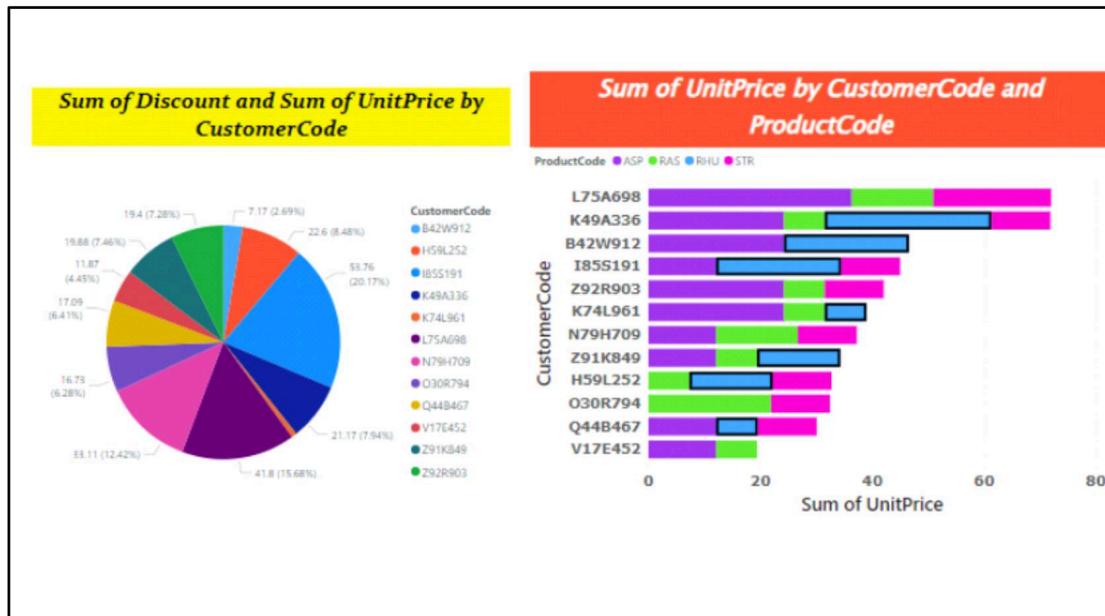
At the most fundamental level, supply chain management is management of the flow of goods, data, and finances related to a product or services, from the procurement of raw materials to the delivery of the product at its final destination.

## DATASHEET:

# supply chain analysis of inventories,

## VISUALIZATION:

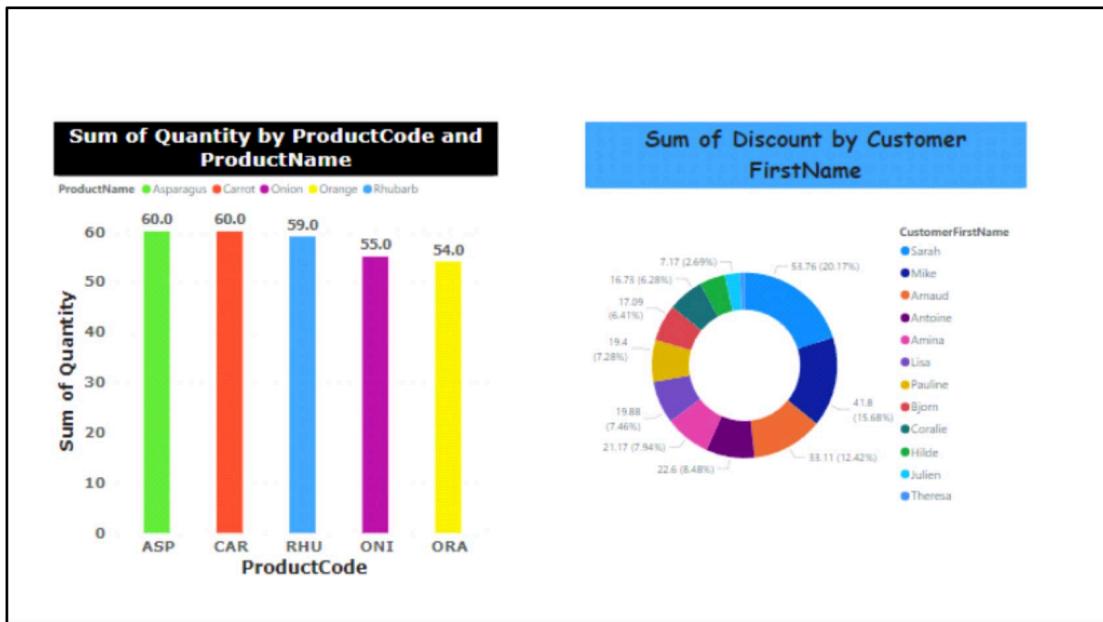
### PIE CHART AND BAR CHART:



The visual indicates the discount and unit price by customer code.

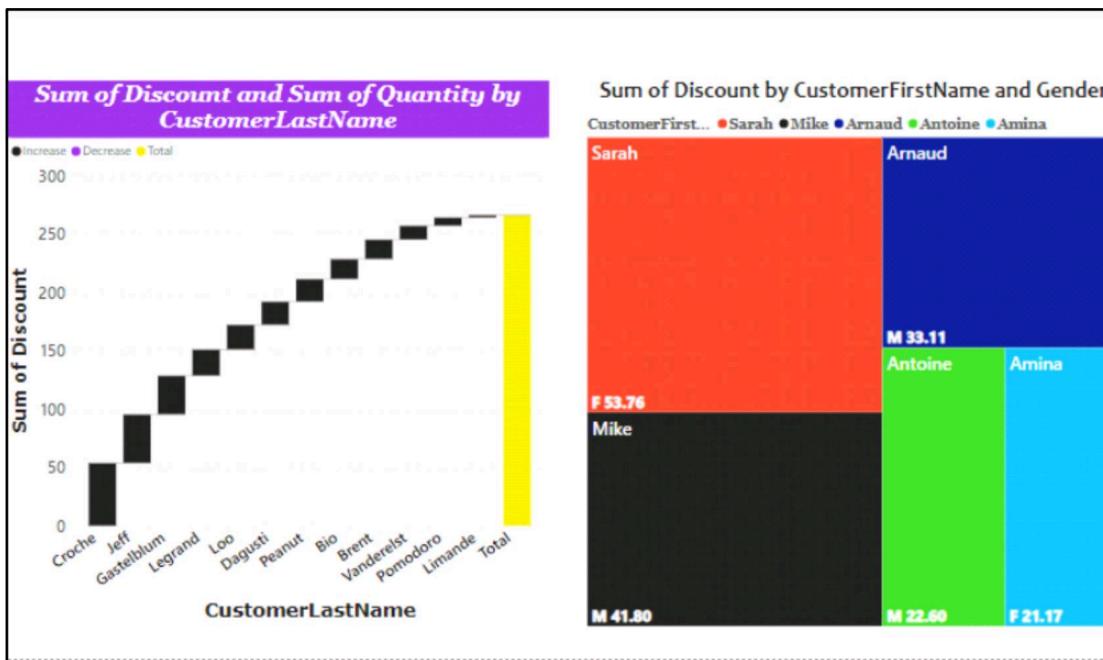
The second show unit price and customer code and product code.

### DOUGHNUT CHART AND RIBBON CHART:



The graph represents the quantity by product code and product name and also show the discount and customer first name.

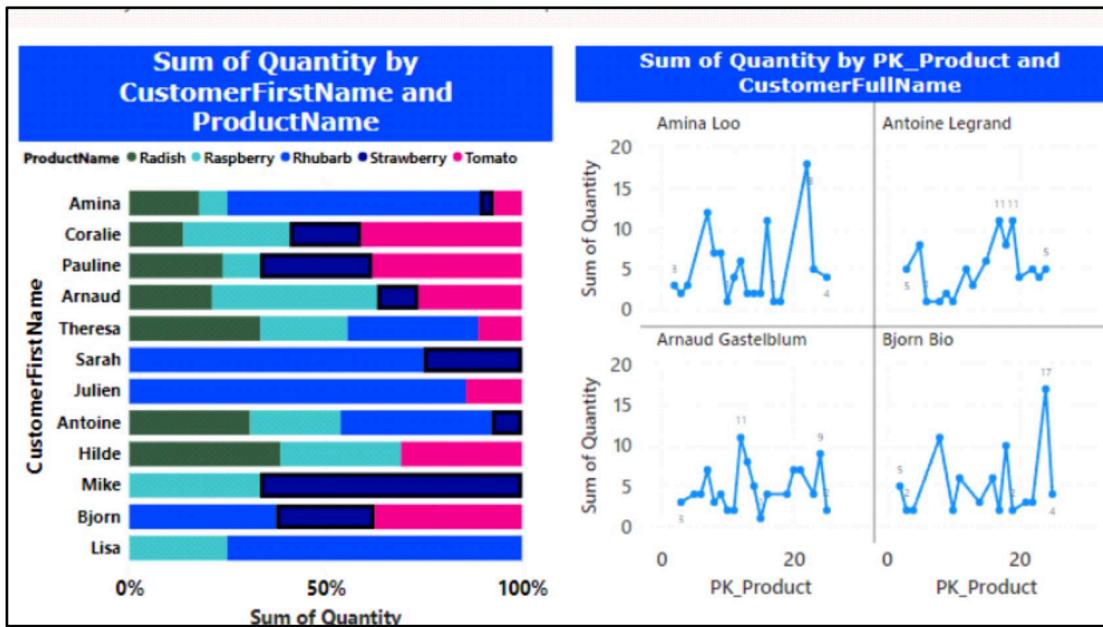
## WATERFLOW CHART AND TREE CHART:



The visual indicates the sum of discount and sum of quantity and customers last name.

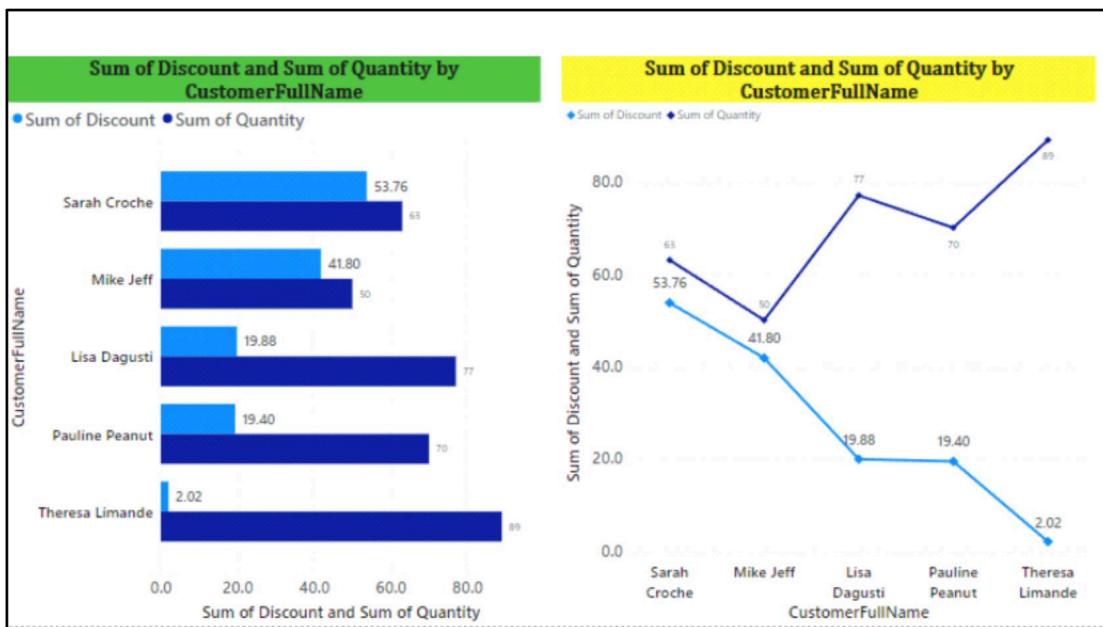
Here it just show the sum of discount by customer first name and gender.

## LINE CHART AND BAR CHART:



The picture show the quantity and product name and customer first name and quantity by product and customer first name.

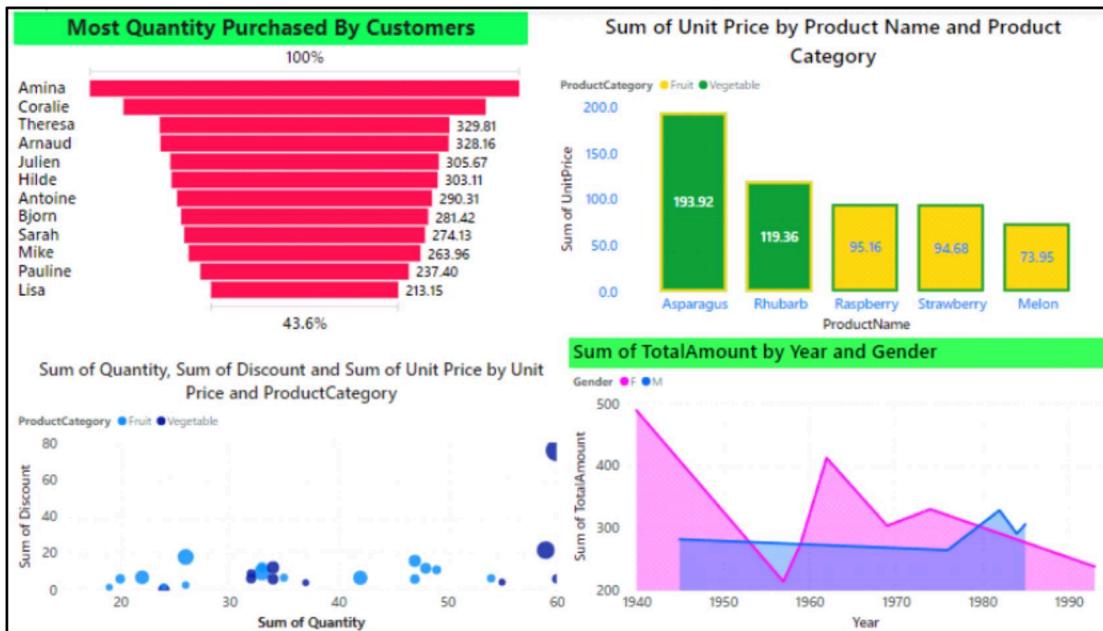
## LINE CHART AND ROW CHART:



The graphs show sum of discount and quantity and customer full name.

# DASHBOARDS AND REPORTS:

## SUPPLY CHAIN ANALYSIS



## REPORTS :

Power BI numerous benefits for project tracking. One of the main advantages is its ability to consolidate data from multiple sources, such as project management tools, financial systems, and spreadsheets. This allows project managers to have a holistics view of the project, making it easier to identify trends, patterns, and anomalies. power BI's interactive features allow users to explore and drill into the data, gaining deeper insights into the projects project's performance.

In addition, Power BI offer a wide range of collaboration features that enhance team collaboration and communication. Project teams can easily share dashboards and reports with stakeholders, enabling real-time annotations to

specific data points, facilitating discussion and improving the overall project tracking process.

## **CONCLUSION:**

Microsoft Power BI is an indispensable tool in the realm of business intelligence. Its robust features, ease of use, and ability to transform raw data into actionable insights make it a top choice for organisation worldwide. As you wrap up your power BI project, consider the following key points:

**DATA CONNECTIVITY:** Power BI's extensive connector library allows seamless integration with various data sources, including Google Analytics, SQL database, and more.

**CUSTOM VISUALISATION:** Leverage Power BI's pre-designed visualisation to create interactive reports tailored to your specific needs. Additionally, explore third-party solutions like FluenPro's report packs for enhanced intelligence and analytics.

**PERFORMANCE OPTIMIZATION:** The columnar database engine within Power BI significantly improves performance by compressing large datasets, making it an effective choice for data modeling.

