Tech Saksham

Case Study Report

Data Analytics with Power BI

"Supply Chain Analysis of Inventories"

“Government Arts and Science College, Aundipatti”

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INTRODUCTION

Power BI is a Data Visualization and Business Intelligence tool that converts data from different data sources to interactive dashboards and BI reports.Power BI suite provides multiple software, connecter,and services-Power BI desktop,Power BI service based on Saas, and mobile Power BI apps available for different platforms. These set of services are used by business users to consume data and build BI reports.

POWER BI:

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

THE PARTS OF POWER BI:

Power BI consists of several elements that all work together, starting with these three basics:

* A Windows desktop application called Power BI Desktop.

*An online software as a service (SaaS) service called the Power BI service.

*Power BI Mobile apps for Windows,iOS,and Android devices.

POWER BI DASHBOARD:

A Power BI dashboard is a single page,often called a canvas, that tells a story through visualizations. because it's limited to one page, a well-designed dashboard contains only the highlights of that story. readerscan view related reports for the details.

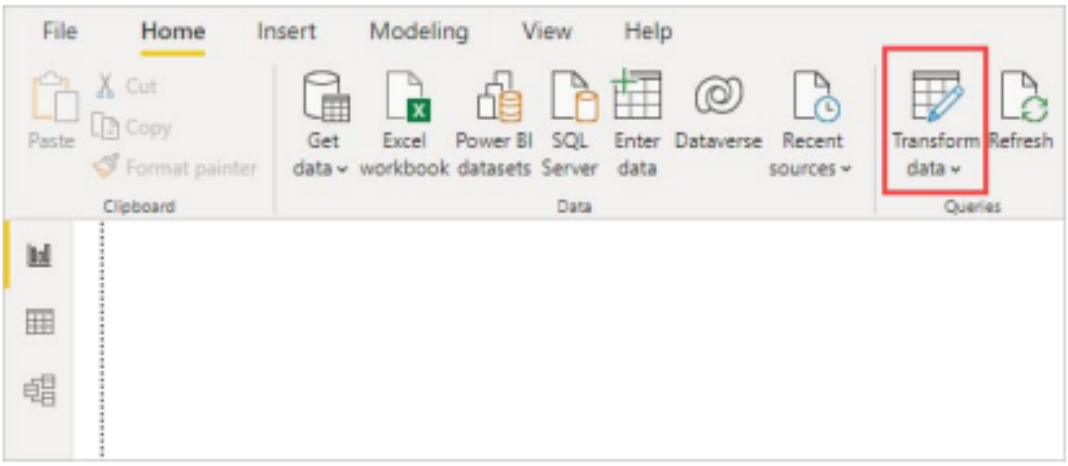
POWER BI PROCESS:

Power BI is a technology-driven business intellegence tool provided by Microsoft for anlayzing and visualizing raw data to present actionable information.It combines business analytics, data visualization,and best practices that help an organization to make data-driven decisions.

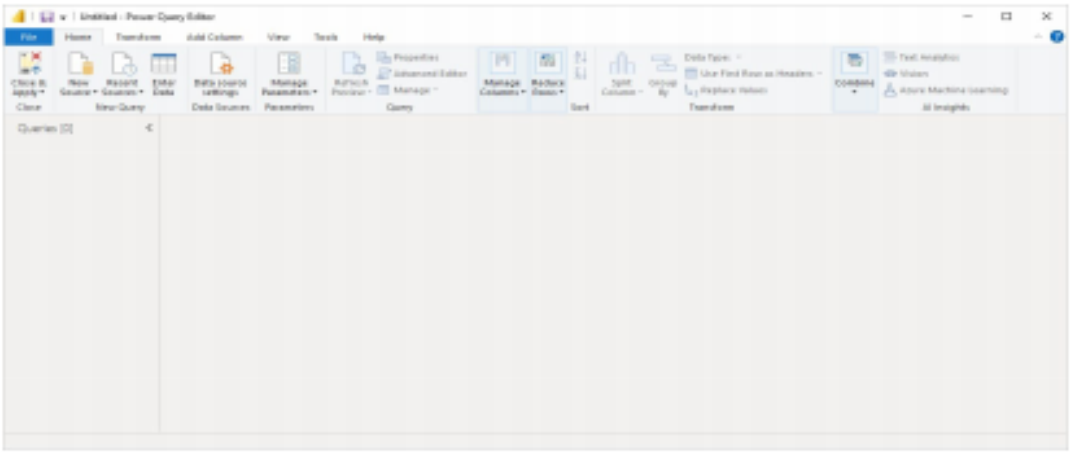
POWER QUERY EDITOR:

To get to Power Query Editor,select Transform data from the Home tab of Power BI

Desktop.



With no data connections, Power Query Editor appears as a blank pane, ready for data.



After a query is loaded,Power Query Editor view becomesmore interesting. if you connect to a Web data source using the New Source button in the top left,Power Query Editor loads information about the data,which you can then begin to shape.

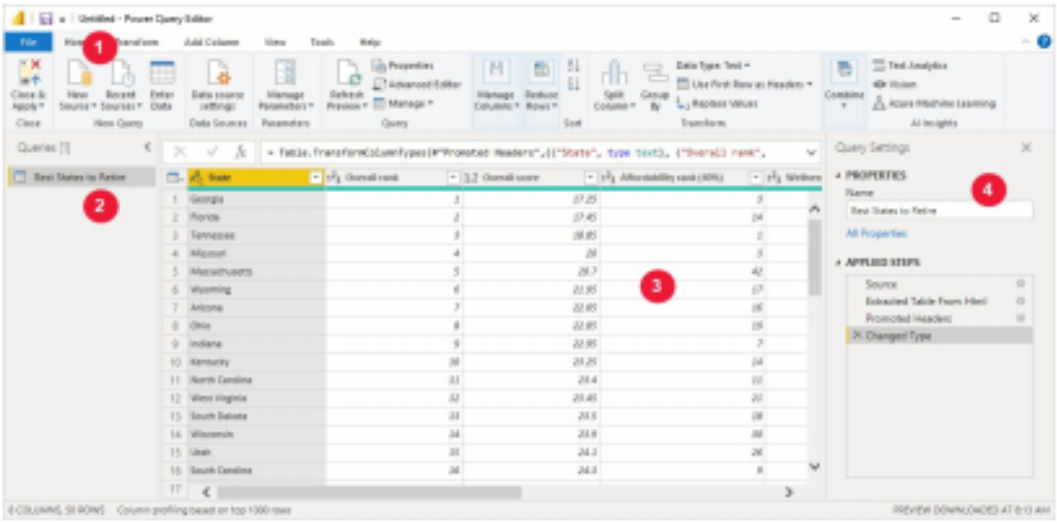
Here'show Power Query Editor appears after a data connection established:

1.In the ribbon,many buttons are now active to interact with the data in the query.

2.In the the left pane, queries are listed and available for selection,viewing, and shaping.

3.In the centre pane, data from the selectedquery is displayed and available for shaping.

4.The Query Settings pane appears, listing the query's properties and applied steps.



Each of these four areas will be explained later:the ribbon, the Queries pane,the data view, and the Query Settings pane.

USER INTERFACE:

The Power Query editor represents the Power Query user interface.In this userinterface,you can add or modify queries,

manage queries by grouping or adding descriptions to query steps, or visualize your queries and their structure with different views . The Power Query user interface has five distinct components.

1. Ribbon: the ribbon navigation experience, which provides multiple tabs to add transforms,select options for your query,and access different ribbon buttons to complete varioustasks.

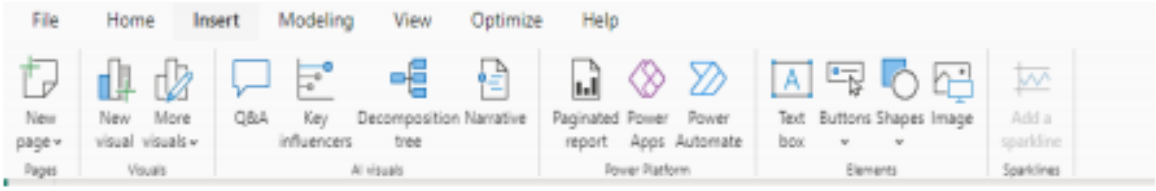
2. Queries pane: a view of all your available queries.

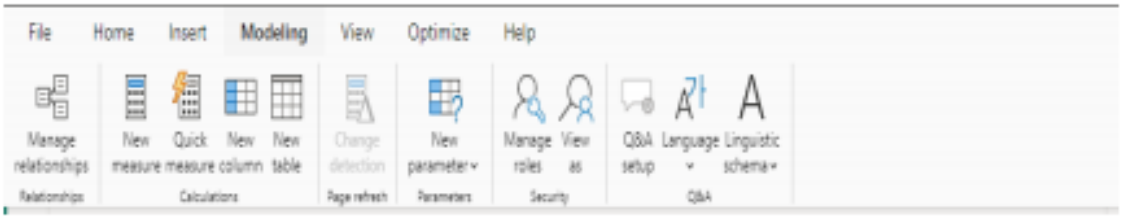
3. Current view: your main working view, which by default, displays a preview of the

data for your query. You can also enable the diagram view along with the data preview view.You can also switch between the schema view and the data preview view while maintaining the diagram view.

4. Query settings: a view of the currently selected query with relevant information,such as query name,query steps,and various indicators.

5. Status bar: a bar displaying relevant important information about your query, such as execution time, total columns and rows, and processing status. This bar also contains buttons to change your current view.





ABOUT MY PROJECT:

Supply Chain Analysis of Inventories:

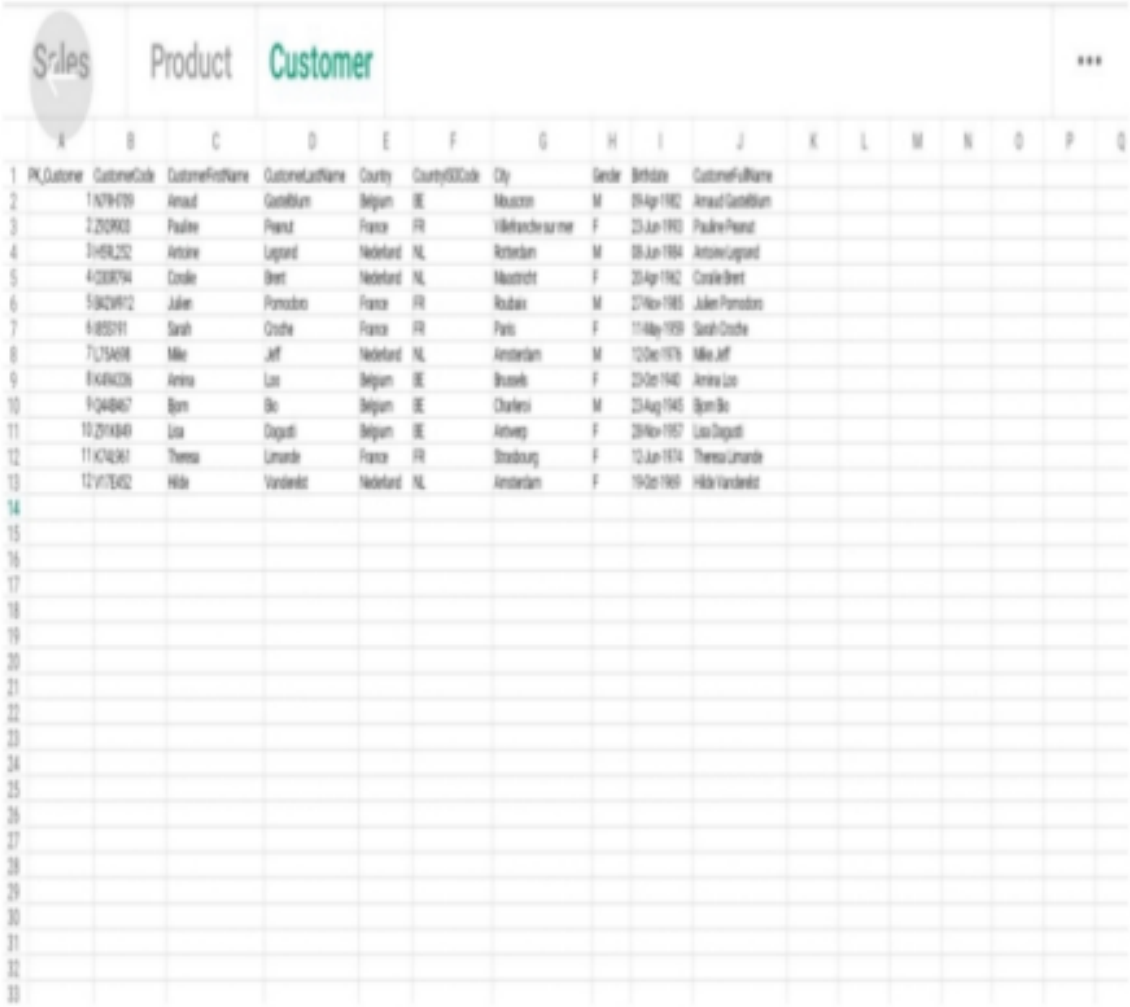
Supply Chain Management(SCM) is the bonding of the entire production flow of goods and services that includes all process for converting raw materials into final products.It involves the active streamiling of a business's supply side activities to maximize customer value and gain a competitive advantage in the market place.

Supply Chain Management practice depends heavily on industrial engineering, systems engineering,operation.

Management,logistics,procurement,information technology and marketing, and strives for an integratd approach. It is the broad range of activities required to plan,control and execute a products flow from materials to production to distribution in the most economical possible.

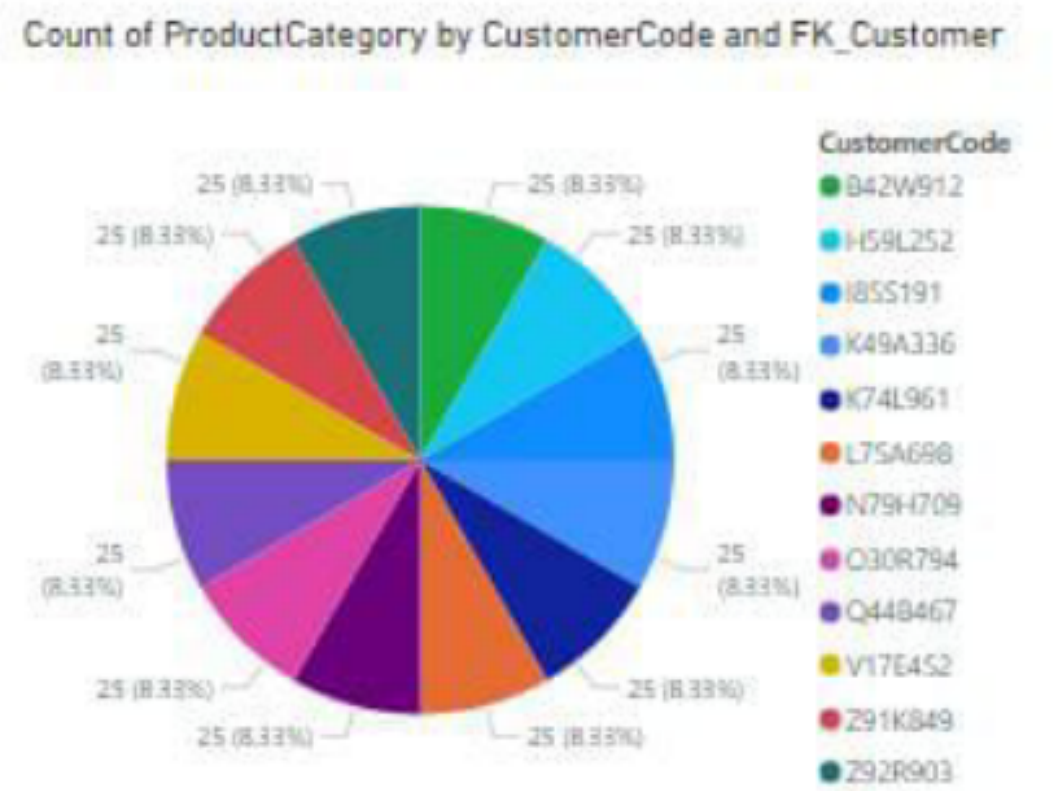
DATA SHEET

SUPPLY CHAIN ANALYSIS OF INVENTORIES(Data sheet)in excel format.

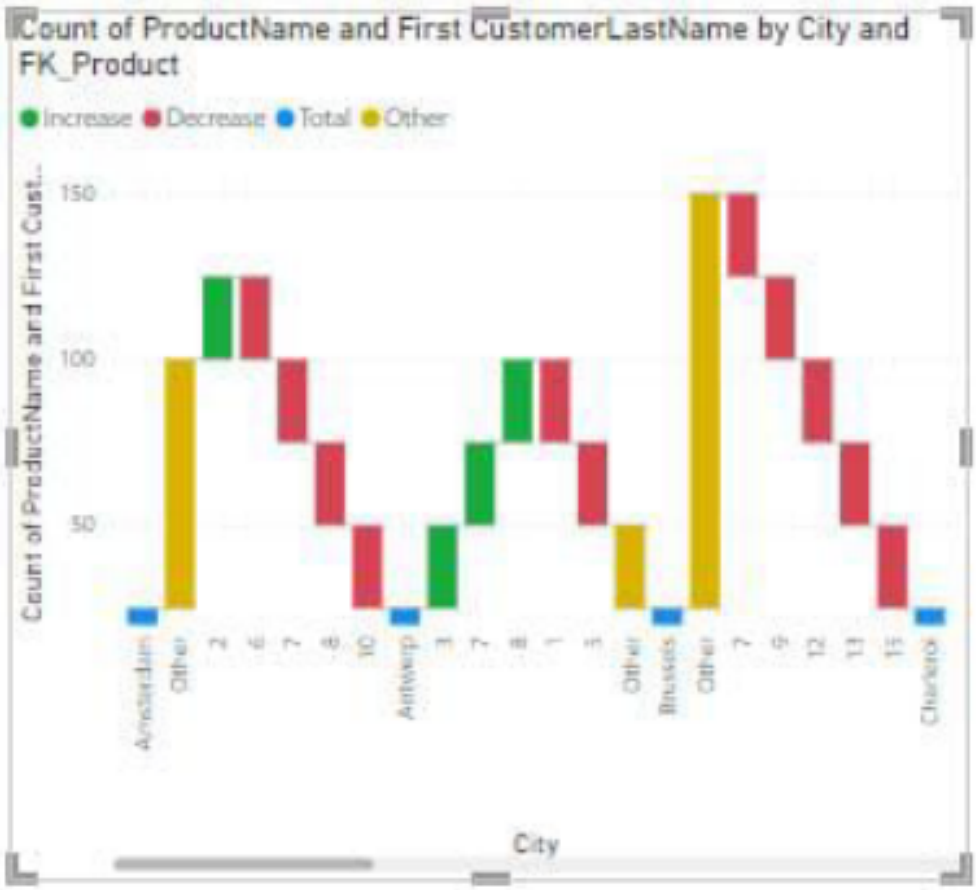


VISUALIZATION IN POWER BI:

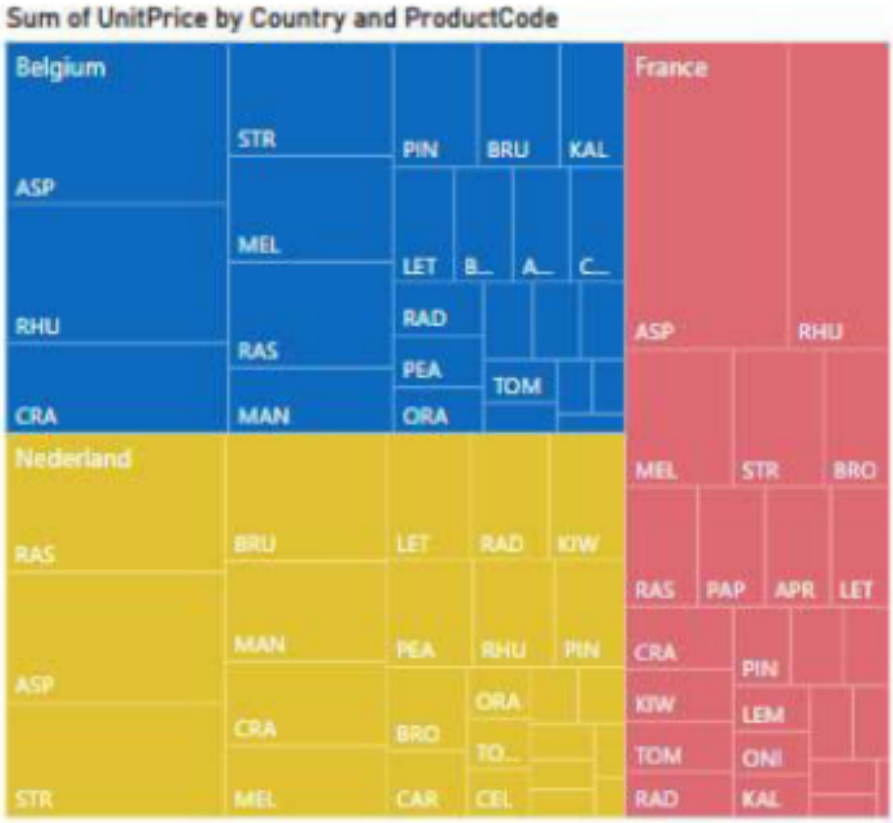
PIE CHART



WATER FALL CHART:


Count of ProductName and First CustomerLastName by City and FK_Product
Increase
Decrease
Total
Other
Count of ProductName and First Cust...
150
100
50
Other
Antwerp
Other
Brussels
Other
Charleroi
City

TREE CHART:


Sum of UnitPrice by Country and ProductCode
Belgium
ASP
RHU
CRA
STR
MEL
RAS
MAN
PIN
BRU
KAL
LET
B...
A...
C...
RAD
PEA
ORA
TOM
France
ASP
RHU
MEL
STR
BRO
RAS
PAP
APR
LET
CRA
PIN
KIW
LEM
TOM
ONI
RAD
KAL
Nederland
RAS
ASP
STR
BRU
MAN
CRA
MEL
LET
RAD
KIW
PEA
RHU
PIN
BRO
CAR
ORA
TO...
CEL

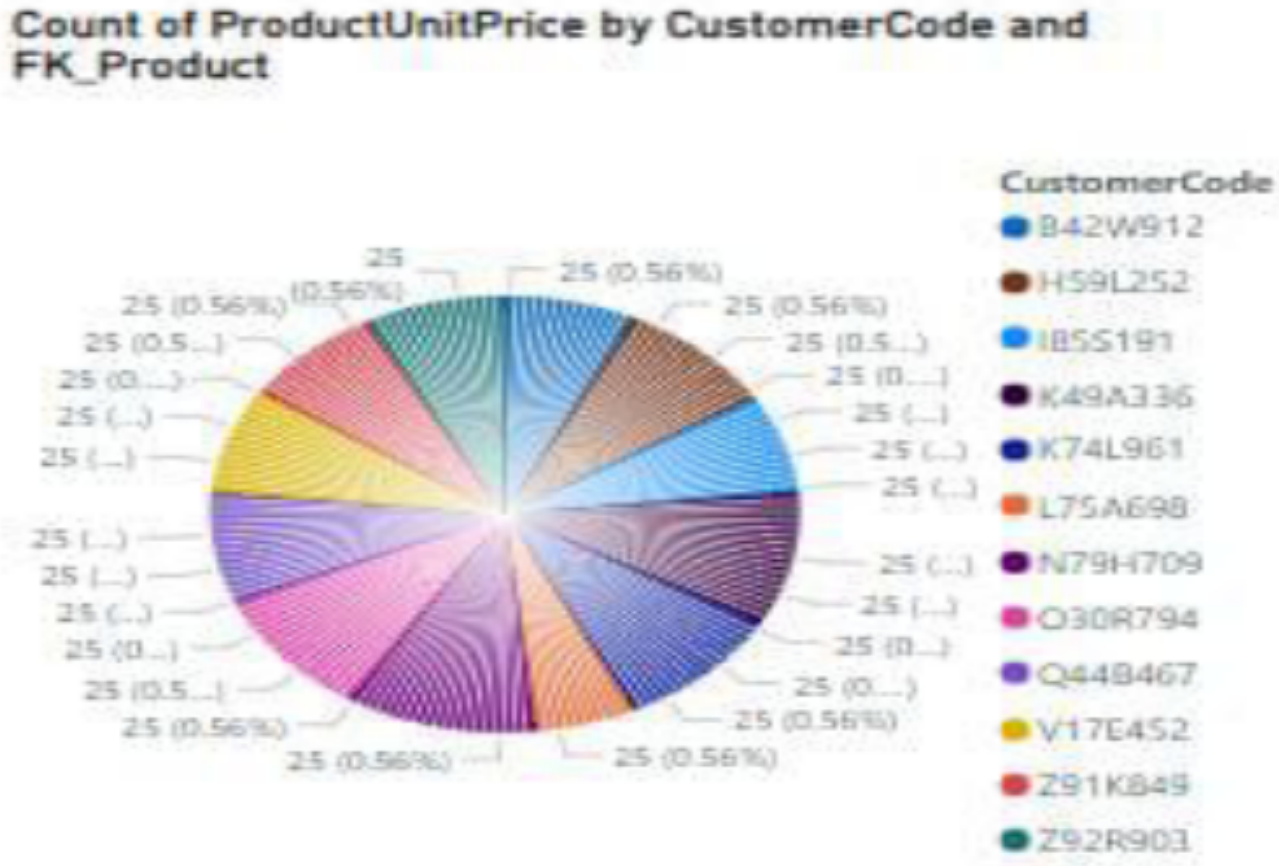
DONUT CHART:

WATERFALL CHART:

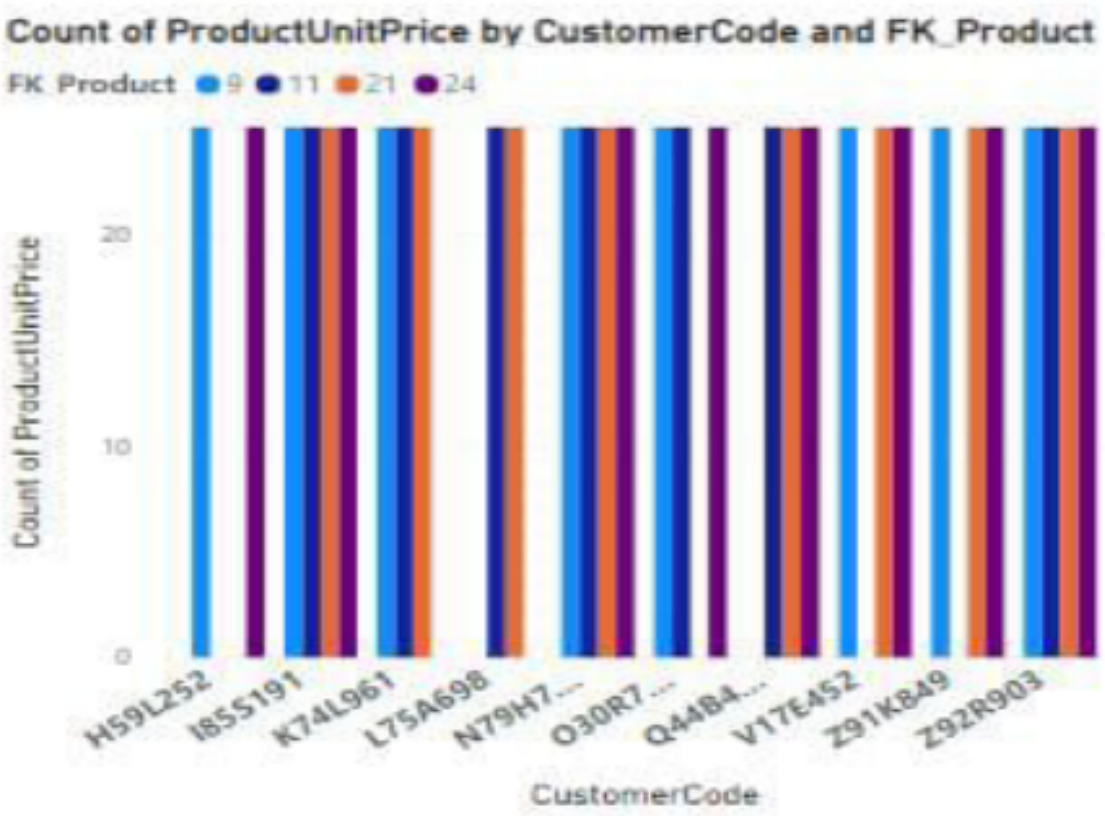
COLUMN CHART:


Count of PK_Product and Sum of Quantity by CustomerFirstName and ProductCategory
ProductCategory
Fruit
Vegetable
Sum of Quantity
20
15
10
5
0
Count of PK_Product
100
80
60
Sum of Quantity
Amina
Antoine
Arnaud
Bjorn
Coralie
Hilde
Julien
Lisa
Mike
Pauline
Sarah
Theresa
CustomerFirstName

PIE CHART:



RIBBON CHART:


Count of ProductUnitPrice by CustomerCode and FK_Product
FK_Product 9 11 21 24
Count of ProductUnitPrice
20
10
0
H59L252
I85S191
K74L961
L75A698
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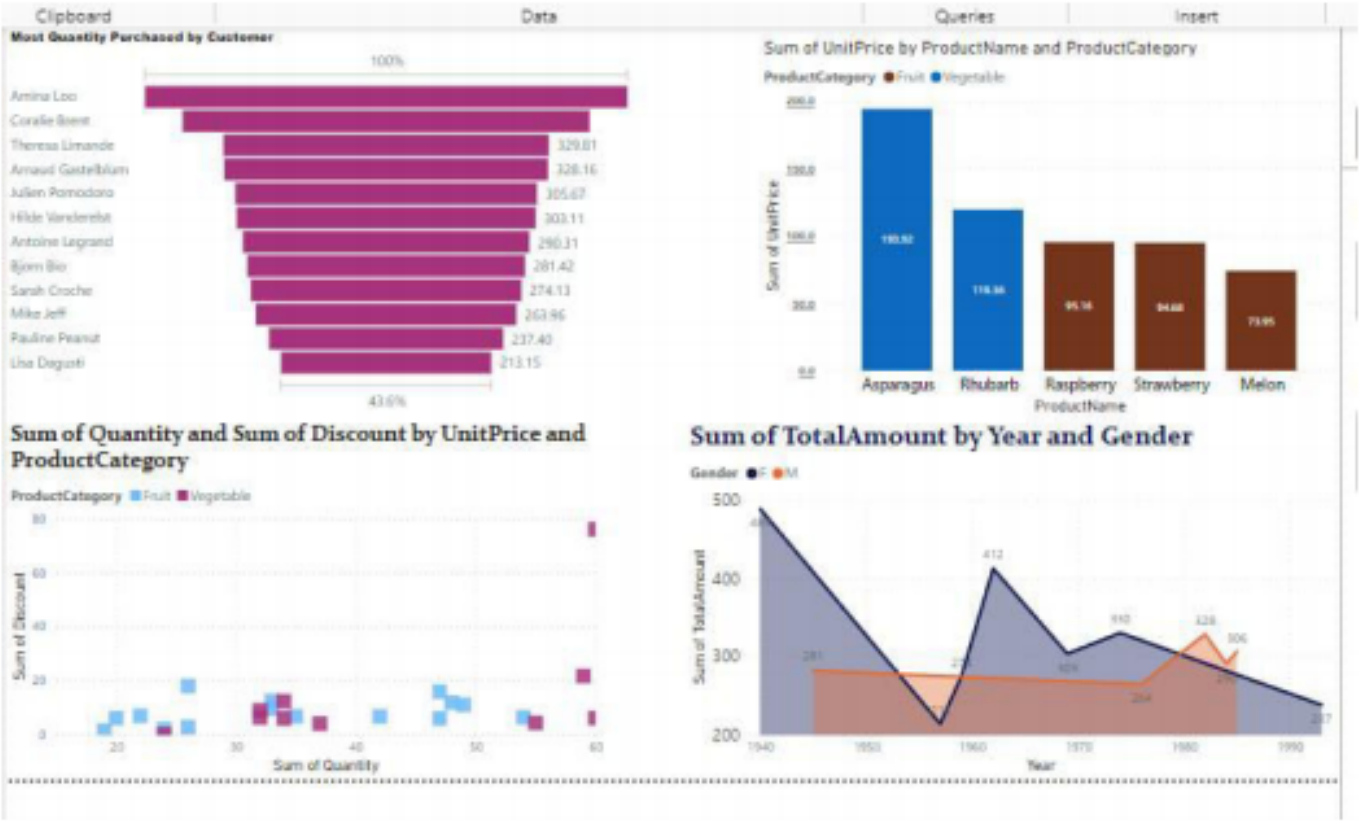
O30R7...
Q44B4...
V17E452
Z91K849
Z92R903
CustomerCode

DASHBOARD:



REPORT:

Power BI offers numerous benefits for project tracking.One of the main advantages is its ability to consolidate data fom multiple sources, such as project management tools, financial systems, and spreadshets. This allows project managers to have a holistic view of the project,making it effortless to track project progress at a glance.Furthermore, Power BI's interactive features allow users to explore and drill down into the data, gaining deeper insights into the project's performance.

In addition, Power BI offers 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 collaboration and feedbck.Power BI also allows users to add comments and annotations to specific data points, facilitating discussions and improving the overall project tracking process.

CONCLUSION:

Microsoft Power BI is an indispensable tool ine the real of business

intelligence.Its robust features,ease of use,and ability to transform raw data into actionabll isights make it a top choice for organizations 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 databases,and more.

Custom visualization: Leverge Power BI's pre- designed visualization to create interactive reports tailored to your specific needs. Additionally, explore third-party solutions like FluentPro'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 itan efficient choice for data modeling.