Tech Saksham

Case Study Report

Data Analytics with Power BI

"Supply Chain Analysis Of Inventories"

GOVERNMENT ARTS AND SCIENCE COLLEGE.

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INTRODUCTION:

Introduction of power BI

Microsoft power BI is a collection of apps, software services and connectors that come together to turn unrelated data into visually impressive and interactive insights. Power BI can work with simple data sources like Microsoft Excel and complicated once like cloud based are on premises hybirt Data were houses. Power BI has the capablities to easily connect to your data sources,visualize and share and publish your findings with any one and everyone.

Power BI is simple and fast enough to connect to an Excel workbook or a local data base .It can also be robust and enterprise -grade ,ready for extensive modeling and real time analytics. This means it can be used in variety of Environments from a personal report and visualisation tool the

analysise and design engine behind group projects, division are entry corporations.

As Power BI is a microsoft product and has in connections excel , there are many functions that will be familiar to an Excel user.

The parts of power BI

Power BI constitutes of a Microsoft Windows desktop applications called powerBI desktop,an online SaaS called power BI service and a mobile power BI apps that can be assed from Windows phones and tablets, and also avalible on Apple iOS and google android devices.

These three elements-desktop, the service, And mobile apps-are the backborn app the power BI system and lets uses credit, share and consive the actionaple in sights in the more effective way.

Power BI flow

Generally, the flow starts at the power BI desktop, were a report is credited. This credit the report can be published to the power BI service and finally shared so that the users can use it from the mobile apps.

This is the most common approach for sharing reports. there are other approaches but we will stick to this flow for this entire tutorial to help learn the different aspect power BI.

THE PARTS OF POWER BI

POWER BI consists of several elements that all work together, starting with these three basic:

- 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.

Three elements-Power BI Desktop, the services, and the mobile apps-are designed to the let you create, share, and consume business insights in the Way that serves you and your role moat effectively.

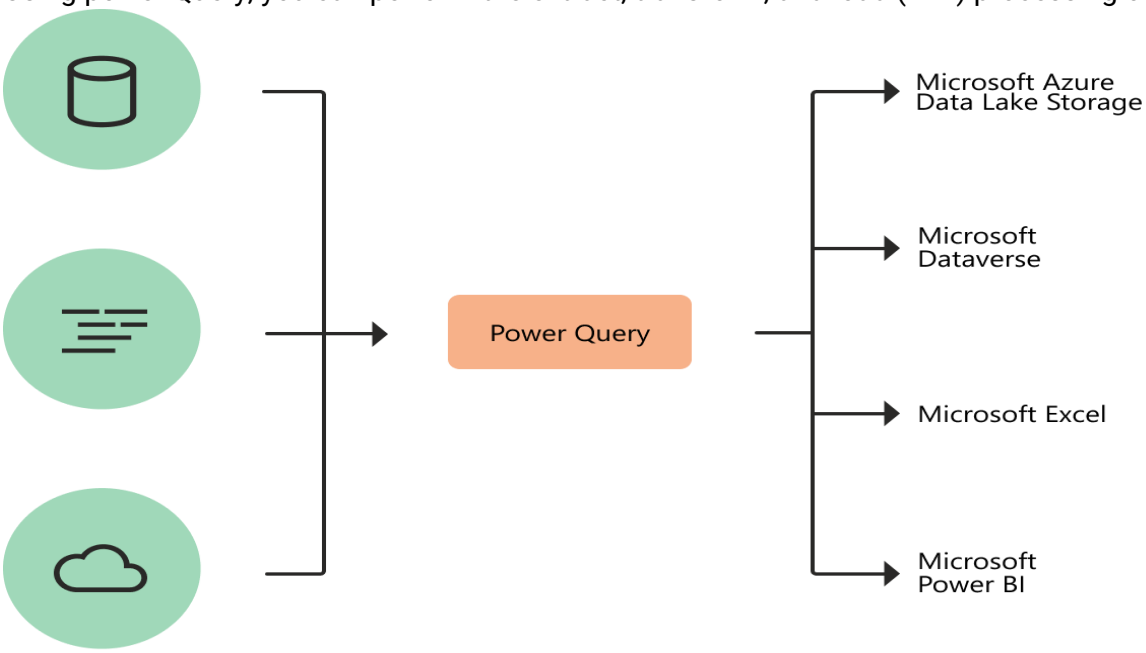
Beyound those three, power BI also features two others elements:

*Power BI report Buliders, for creating paginated reports to share in the power BI service. Read more about paginated reports later in this article.

*Power BI Report server, an on premises report server where you can publish your power BI reports, after creating them in power BI Desktop. Read more about Power BI Report Server later in this article.

POWER QUERY:

Power query is a data transmission and preparation engine. Power query comes with a grapical interface for getting data from sources and a power query comes from sources and Power query Editor for applying transmissions. Because the engine is avaliable 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, transform, and load (ETL) processing of data.



How Power Query helps with data acquisition;

*Business users spend up to 80 percentagetime on the data of their which delays the work of analysis and decision making. Serval challenges contribute to this situvation, and power query helps address many to them.

*Power Query enables connectivity to a wide the range of data sources, including data of all sizes and shapes.

*Highly interactive and intutive experience for rapidly and iteractivity building queries over any data source, any size.

POWER QUERY EXPERIENCES;

*Power Query online-found in integrations such as a power BI dataflows, microsoft power platform dataflows azure,Datafactory wrangling dataflows, and many more that provide the eperience through an online webpage.

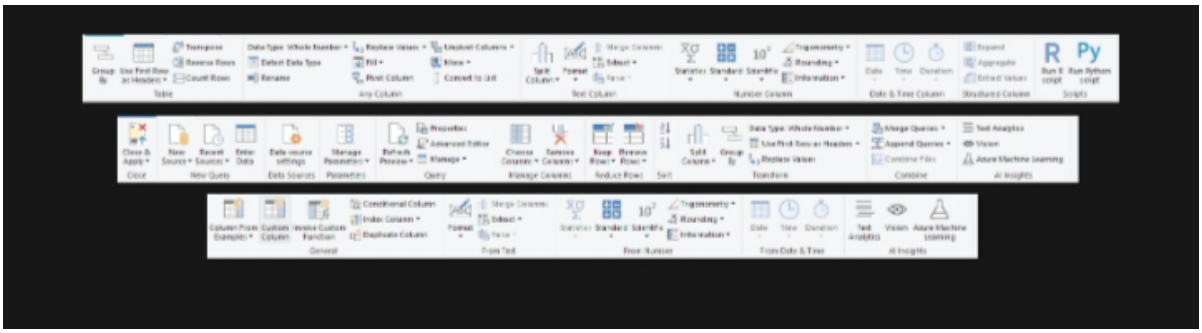
*Power Query for Desktop-foundin integrations such as a power query for excel and power BI Desktop.

TRANSFORMATION:

*The transformation engine in power query includes many prebuilt transformation functions that can be as simple as removing

a column or filtering rows, or as using the first row as a table header. There are also advanced transformation options such as a merge, append, group by, pivot, and unpivot.

*All these transformation are made possible by choosing the transformation option in the menu, and then applying the options required for that the transformation.The following illustration shows a few of the transformation available in power Query Editor.



USER INTERFACE:

User interface (UI) defines the way humans interact with the information systems. In laymans terms user interface (UI) is a series of pages, screens, buttons, forms, and other visual elements that Are used to interact with the device. Every app and every website has a user interface. (UI) Design is the creation of grapics, illustrations, and the use of photograpic at work and artwork and typography to enhance the display and layout of a digital product within the its various device views.

Interface elements consists of input controls (buttons,drop-down menus, datafields),Navigational components (Search field,Slider,icons,tags), and information components(progress bars, notification,meassage boxes).

History of User Interface;(UI)

* The only user interface on early computers was a few buttons at the operators console. Many of these early computers relied heavily on punched cards that were created using keypunch machines to input data and programs. Some voting machines still employ a punched card technology even though they are virtually obsolete in computers as of 2012 (punched cards).

*Users navigated information exchanges with the computer using a keyboard and series of commands. This command line interface gave way to one where menus (lists of options with text descriptions) became the tom.

*Finally Xeroxs palo alto **research** center (PARC) created GUI, adopted and enhanced by Apple and enhanced by Microsoft in Windows Operating Systems.

TYPES OF INTERFACE;

. Form based user interface

. Graphical user interface

. Menu-driven user interface

. Touch user interface

. **Voice user interface**

ABOUT MY PROJECT:

- Project supply chains are often forgotten when we discuss today's supply chain trends. Project supply chains are chains that provide products that are for a unique customer, and must be configured or even designed from scratch. Think of a new power **Customer-Service Management:** This differs from customer-relations management in that it focuses on the interactions between the customer and the company instead of a more strategic management process. It helps facilitate a mutually satisfying goal for both customer and the company, as well as eliciting customer feedback and maintaining communications between the two parties, so there are positive feelings from both parties.
- **Demand-Management Style:** A methodology to forecast, plan for and manage the demand for products and services. This can address both macro-levels, as in global economics, but also micro-levels within the company.
- **Order Fulfillment:** The process that encompasses everything from point-of-sale interest to delivery of that product or service to the customer. It is the way a company responds to customer orders.
- **Manufacturing-Flow Management:** Manufacturing is a process, and supplies feed that process based on historic data

surrounding how it has been done and what was needed historically. But that process needs flexibility as quantities change. Therefore, one must manage all activities related to planning, scheduling and managing the manufacturing process.

- **Supplier Relationship Management (SRM):** Supplies likely are coming from a third party, and those interactions must be strategically planned for. SRM is key to a healthy supply chain.
- **Product Development and Commercialization:** To reduce time to market, customers and suppliers are integrated into product vision and the product development process. Shortening the product life cycle keeps the company competitive. This process includes coordinating with customer relationship management to know customer needs, selecting materials and suppliers with procurement and developing a production technology in the flow of manufacturing to integrate the best supply chain flow for the product and market. When successful, this has a positive impact on cost, quality, delivery and market share.
- **Returns Management:** There will always be returns and the better theyre managed, the more productive and competitive the SCM process. Management of this aspect of the SCM means fast and easy returns management, automation and deciding how to process returned materials. Make sure information is visible to capture early in the process. Then control the flow of product, including receipts and reconciliation, noting if there are any quality issues.

A supply chain strategy is a roadmap that a company uses to source information, materials and equipment from its suppliers to create products and deliver them to its customers.

Supply chain management is just one more screw that can be tightened on the ship of business to help it sail better through the turbulent waters of industry. But its a complicated process, one that benefits from having robust project management tools to plan, monitor and report on the many aspects of the supply chain that need controsl. ProjectManager is a cloud-based software that has the tools to make you manage more efficiently and effectively. See what it can do by taking this free 30-day.

DATASHEET

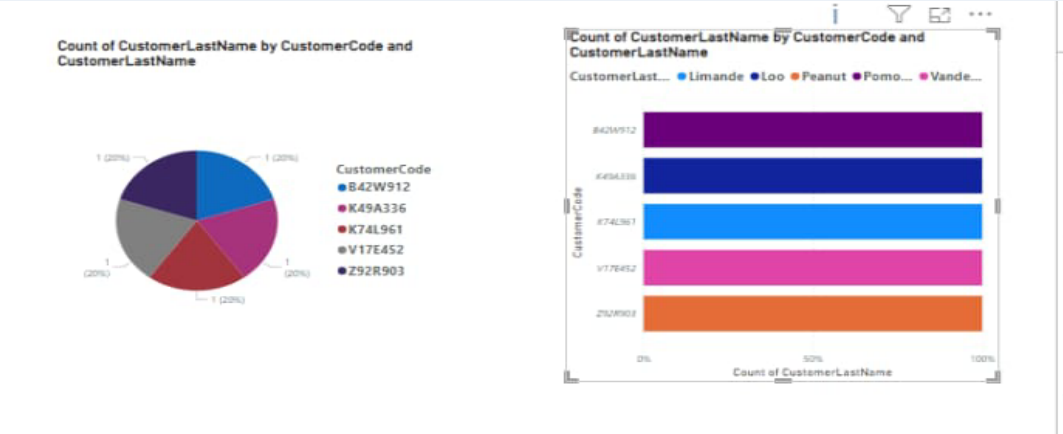
SUPPLY CHAIN ANALYSIS OF INVENTORIES (data sheet) IN EXCEL FORMAT.

Sales | Product | Customer | ...

PK_Customer	CustomerCode	CustomerFirstName	CustomerLastName	Country	CountryISOCode	City	Gender	Birthdate	CustomerFullName
1	N79H709	Arnaud	Gastelblum	Belgium	BE	Mouscron	M	09-Apr-1982	Arnaud Gastelblum
2	Z92R903	Pauline	Peanut	France	FR	Villefranche sur mer	F	23-Jun-1993	Pauline Peanut
3	H59L252	Antoine	Legrand	Nederland	NL	Rotterdam	M	08-Jun-1984	Antoine Legrand
4	Q30R794	Coralie	Brent	Nederland	NL	Maastricht	F	20-Apr-1962	Coralie Brent
5	B42W912	Julien	Pomodoro	France	FR	Roubaix	M	27-Nov-1985	Julien Pomodoro
6	I85S191	Sarah	Croche	France	FR	Paris	F	11-May-1959	Sarah Croche
7	L75A698	Mike	Jeff	Nederland	NL	Amsterdam	M	12-Dec-1976	Mike Jeff
8	K49A336	Amina	Loo	Belgium	BE	Brussels	F	23-Oct-1940	Amina Loo
9	Q44B467	Bjorn	Bio	Belgium	BE	Charleroi	M	23-Aug-1945	Bjorn Bio
10	Z91K849	Lisa	Dagusti	Belgium	BE	Antwerp	F	28-Nov-1957	Lisa Dagusti
11	K74L961	Theresa	Limande	France	FR	Strasbourg	F	12-Jun-1974	Theresa Limande
12	V17E452	Hilde	Vanderelst	Nederland	NL	Amsterdam	F	19-Oct-1969	Hilde Vanderelst

VISUALIZATION:

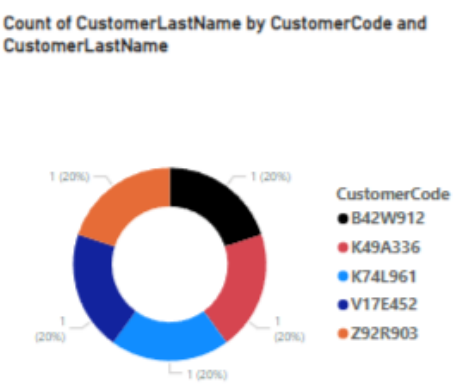
*C*ount of fk-customer and first product name by customer last name;

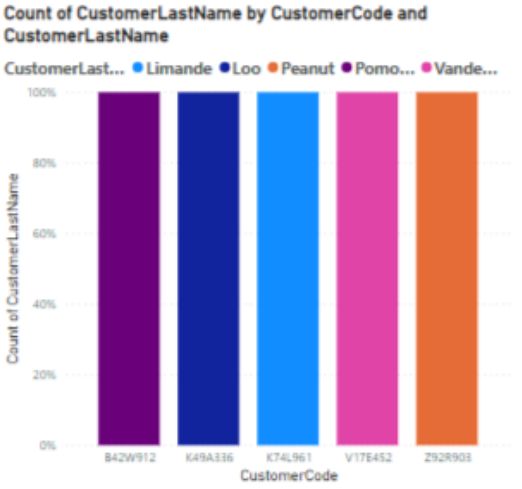


PIE CHART AND RIBBON CHART:

This chart is customer and product name by customer last name.SW

Count of customer last name by customer code and customer last name;





DONUT CHART AND STACKED COLUMN CHART:

This chart shows is count of customer last name by customer code and customer name.

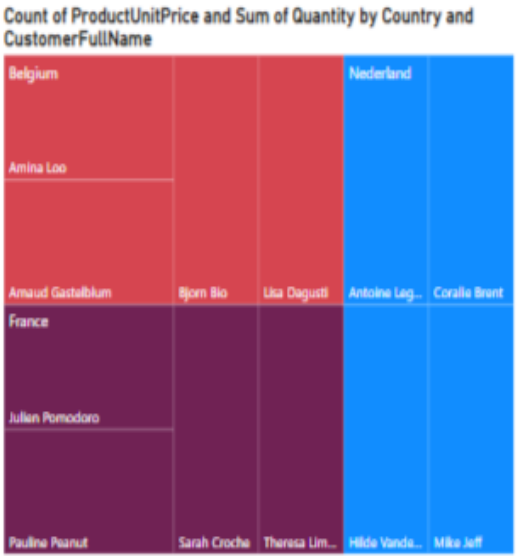
Count of gender by country;

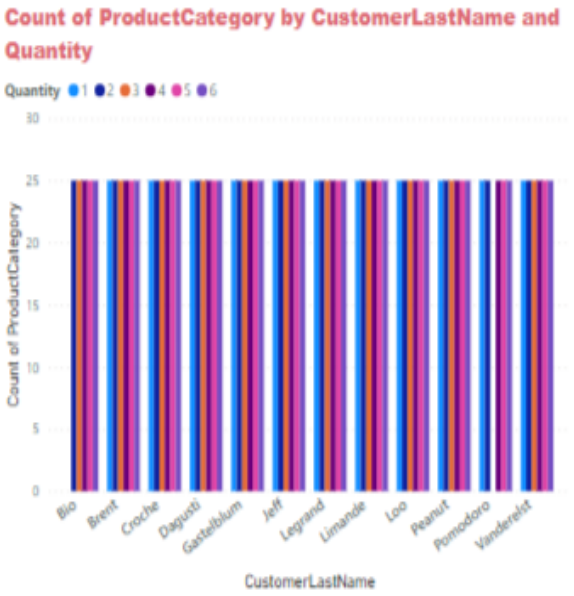
PIE CHART AND COLUMN CHART:

This chart is shows in sum of cound of gender by country&count of the product code and first product category by customerfirst name.

TREE CHART AND RIBBON CHART:

Count of product until price and sum of quanity by country and customer full name;





DASHBOARD:

REPORT:

Power BI numberous benefiuts for project tracking. One of the main advantages is its ability to consolidate data from multiple sources, such as project managements tools, financial systems, and spreadsheets. This allows project managers to have a holistic view of the projecrt making it eraser to identify trends, patterns, and anomalies. Power BI advanced visualizations enable in the creation of intuitive dashboards, making it effortless to track project progress at a galance. Futhermore, power BI interactive features allow user to explore and drill down into the data, gaining deeper insights into the project performance.

Another benefit of using Power BI for project tracking is its ability to automate data references. With the power BI, project managers can set up scheduled refreshes to ensure that the data is always up to date. This eliminates the need for manual data updates and reduces the risk of using outdated information for decision-making.

In addition, power BI offer a wide range of collaboration features that enhance team canb easily share dashboards and reports with shakeholders, enabling real-time collaborations and feedback. Power BI also allows users 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 in the real of business intelligence. Its robust features, ease of use, and ability

to transform raw data into actionable insights make it a top choice for organisations worldwide. As you wrap up your power BI project consider the following key points:

Data connectivity: Power BI extensive connector library allows seamless integration with various data sources, including Googlr Analytics, SQL database, and more.

Custom visualization: Leverage power BI pre-designed visualizations to create interactive reports tailored to your specific needs. Additionaly , explore third-party solutions like fluentpros 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 efficient choice for data modelling.