

Big Data Analytics: Sales Dashboard and Report

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List Of Content Portfolio

01. Background

Defined the background of the data and the analysis carried out

02. Table of Interest

List of data (table) such as table name and source for analysis and visualize

03. Data Process and Visualization

Data Process step by step until turn out visualize and easy to read to gain the point of view (Insight)

04. Suggestion

Advice and recommendations for companies

Tools:



Google
BigQuery



01. Background

Big data is a collection of data that is very large, complex, and growing all the time. This data is the outcome of internet activities that are increasingly routinely carried out, even for personal or business purposes. One example of big data in a company is sales data.

As Big Data Analytics, Kimia Farma has the task of making reports and dashboards related to sales data for six months, starting from January to June 2022. Begin from the data warehouse stage, scheduling to analysis and visualization of several existing databases. Wherein the database is data related to sales, customers, and goods.



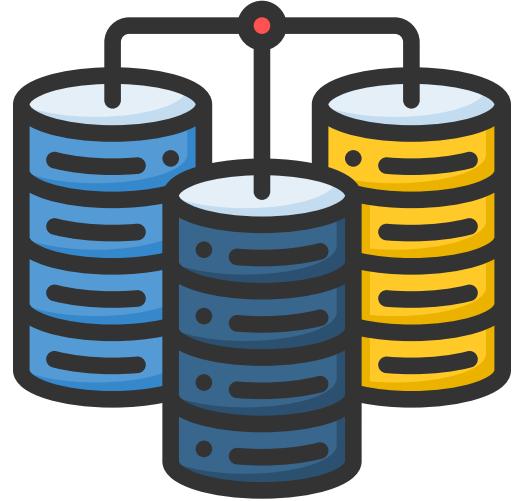
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02. Table of Interest



Input three tables (sales, customers, and goods) that have already available from Kimia Farma, which are converted into CSV format on Google Big Query for further analysis

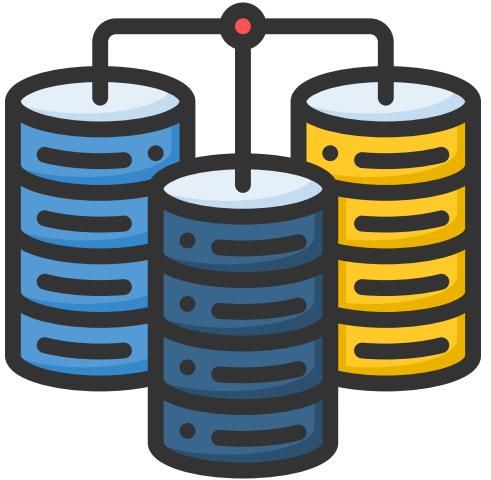
```
`vix-big-data-analytics.Task5_FinalProject.Tabel01_penjualan`  
`vix-big-data-analytics.Task5_FinalProject.Tabel02_pelanggan`  
`vix-big-data-analytics.Task5_FinalProject.Tabel03_barang`
```



03. Data Process and Visualization

How does it work?

1. Using SQL Querying by Google Big Query for data warehousing and analysis
2. Visualize the analysis by creating a sales report and dashboard using Google Data Studio

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SQL Querying

The screenshot shows the Google Cloud BigQuery interface. At the top, there's a navigation bar with 'Google Cloud' and 'VIX - Big Data Analytics'. A search bar says 'Search Products, resources, docs (/)'. Below it, a 'Sandbox' message encourages setting up billing to upgrade to the full BigQuery experience, with 'Learn more', 'DISMISS', and 'UPGRADE' buttons. The main area shows a query editor with four tabs: 'Tabel01_penjualan', 'Tabel02_pelanggan', 'Tabel03_barang', and '*Final Query Sales Dashboard'. The '*Final Query Sales Dashboard' tab is active. Below the tabs are buttons for 'RUN', 'SAVE', 'SHARE', 'SCHEDULE', and 'MORE'. The query itself is listed below:

```
1 SELECT
2 tanggal as Date,
3 id_invoice as InvoiceID,
4 id_customer as CustomerID,
5 b.string_field_2 as CustomerName,
6 id_barang as ProductID,
7 c.nama_barang as ProductName,
8 id_cabang as BranchID,
9 b.string_field_4 as BranchArea,
10 brand_id as BrandID,
11 c.lini as BrandName,
12 jumlah_barang as TotalQuantity,
13 harga as Price,
14 kemasan as Packaging
15 FROM `vix-big-data-analytics.Task5_FinalProject.Tabel01_penjualan` a
16 INNER JOIN `vix-big-data-analytics.Task5_FinalProject.Tabel02_pelanggan` b on a.id_customer = b.string_field_0
17 INNER JOIN `vix-big-data-analytics.Task5_FinalProject.Tabel03_barang` c on a.id_barang = c.kode_barang
```

A status message at the bottom right says 'Query completed.'

Visualization

For more detailed visualization each month, you can access:

<https://datastudio.google.com/reporting/dcd8aa9e-e49c-419a-bdb5-052b3dce9db9>

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Data Filter

Jan 1, 2022 - Jun 30, 2022

The filter used is a date filter, which adjusts to the availability of data from January 1 to June 30, 2022

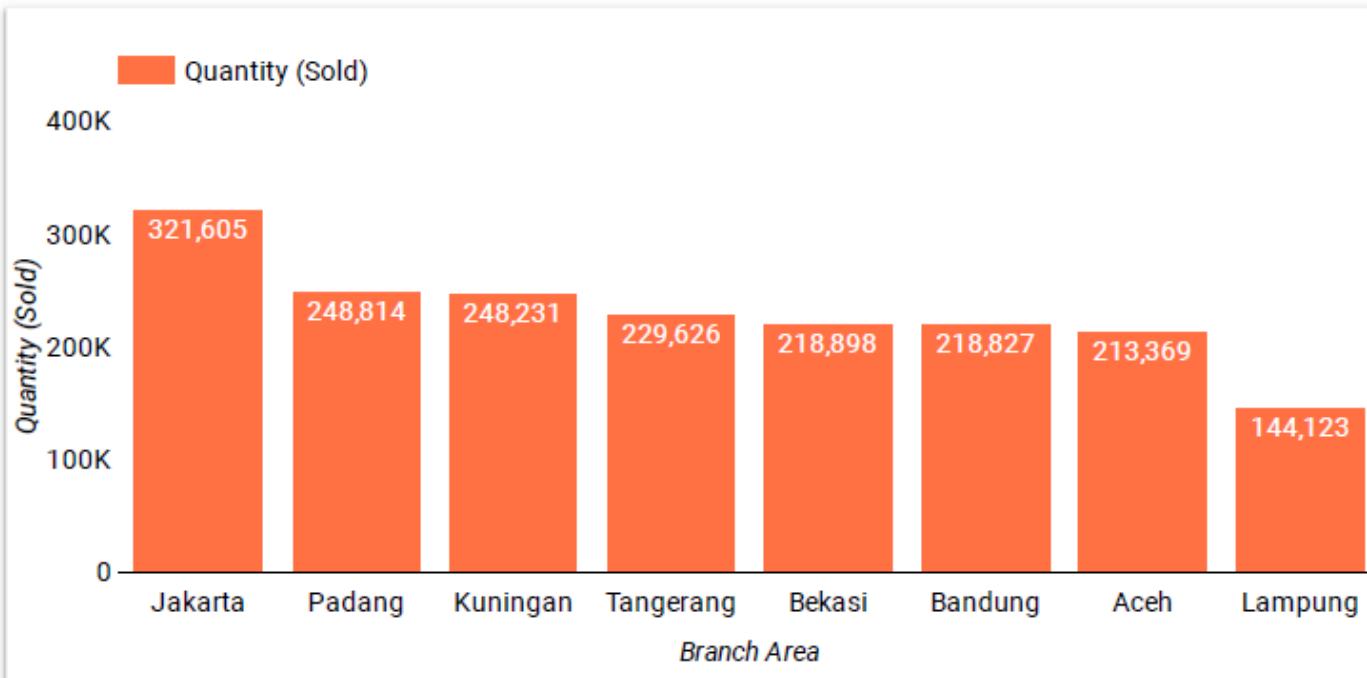
Total Sales
Rp49,216,465.14

Total Quantity (Sold)
1,843,492

Total Invoice
350

Posit the date filter shows that the sales that occurred at Kimia Farma during that period had sales revenues of IDR 49,216,465.14 with a total of 1,843,492 items sold out of a total of 350 invoices printed.

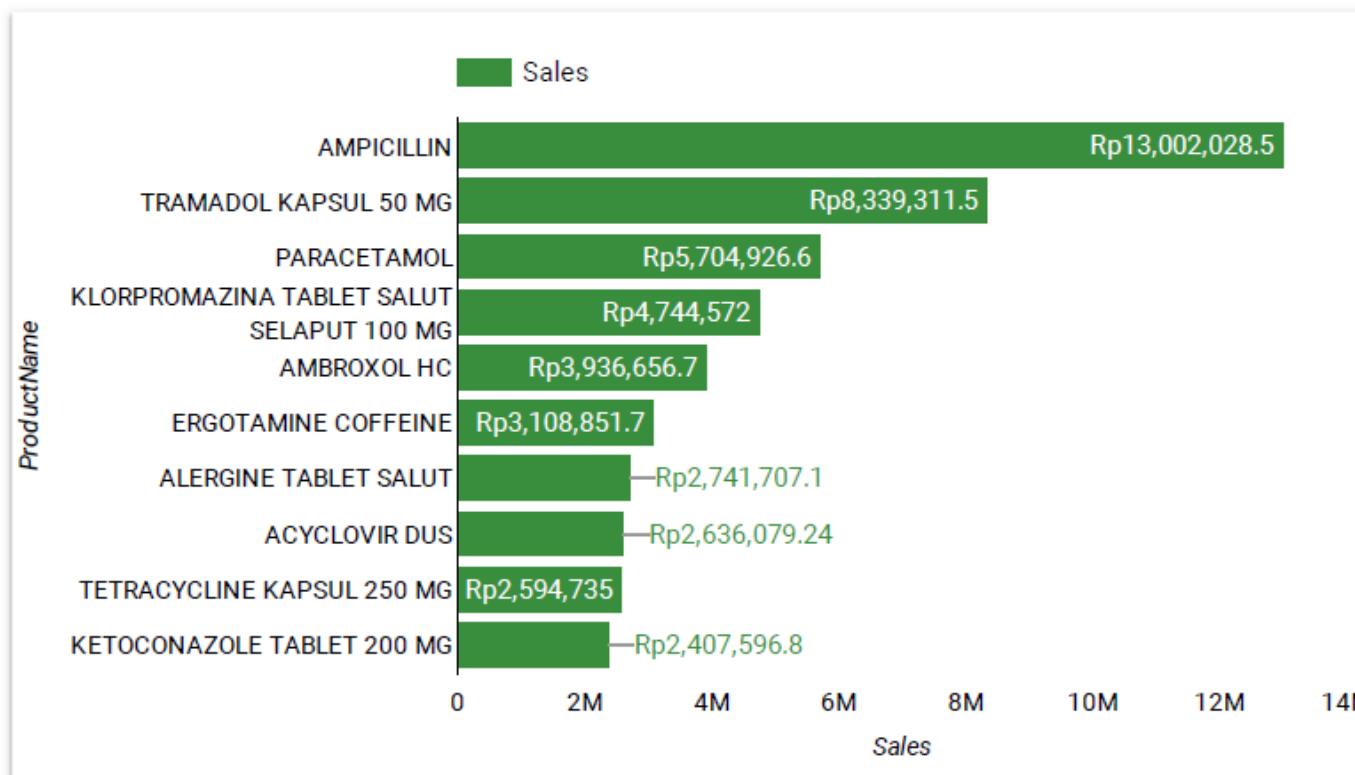
Product Sales and Quantity by Branch Area



Branch Area	Total Sales
1. Jakarta	Rp12,151,454.7
2. Kuningan	Rp8,018,901
3. Bekasi	Rp5,985,145.72
4. Tangerang	Rp5,604,113.9
5. Bandung	Rp5,585,451.85
6. Aceh	Rp4,730,392.17
7. Padang	Rp4,239,979.5
8. Lampung	Rp2,901,026.3

When viewed from sales revenue and the number of products sold, the highest was the Jakarta area with IDR 12,151,454.7 (24.68%) of sales and 321,605 goods sold (17.44%). While the lowest was in Lampung with IDR 2,901,026.3 (5.89%) of sales and 144,123 items sold (7.81%)

Product Sales and Quantity by Product Name

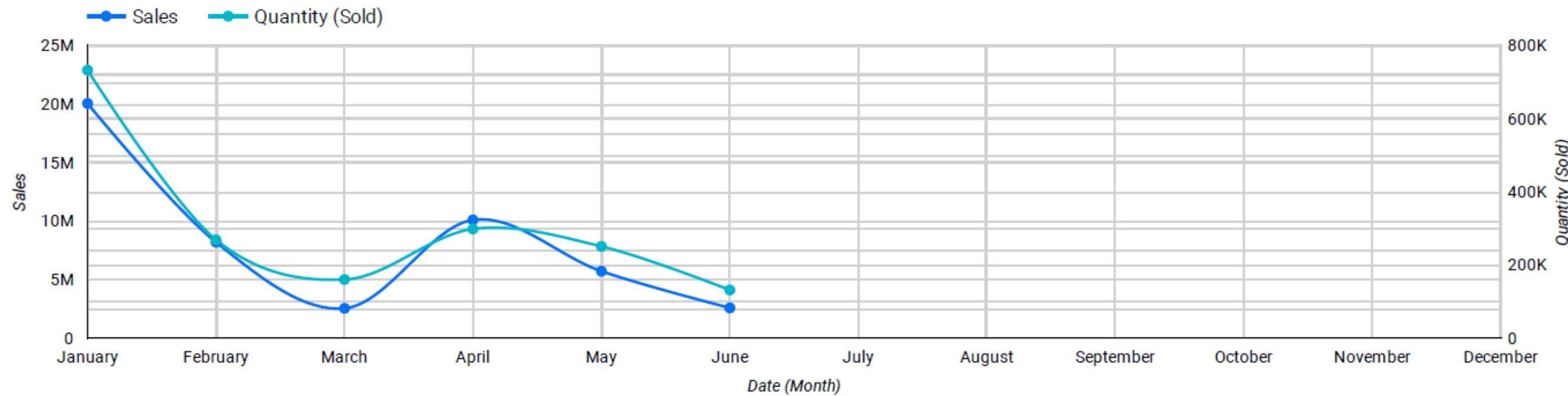


ProductName	Quantity
1. AMPICILLIN	1,337
2. ACYCLOVIR DUS	1,285
3. ALERGINE TABLET SALUT	1,025
4. TRAMADOL KAPSUL 50 MG	1,005
5. KETOCONAZOLE TABLET 200 MG	854
6. KLORPROMAZINA TABLET SALUT SELAPUT 100 MG	840
7. PARACETAMOL	822
8. AMBROXOL HC	681
9. ERGOTAMINE COFFEINE	677
10. TETRACYCLINE KAPSUL 250 MG	650

Observing the visualization shows that the sales of the top three products (highest sales) are Ampicillin (IDR 13,002,028.5), Tramadol Capsules 50 mg (IDR. 8,339,311.5), and Paracetamol (IDR. 5,704,926.6). Meanwhile, when viewed from the available stock, there is a slight difference where the three products with the most supply are Ampicillin (1,377), Acyclovir Box (1,285), and Allergen Tablet Coated (1,025).

It indicates an imbalance between sales and the availability of drug stocks. Because there are some drugs whose sales are high, but the stock is low, and vice versa.

Total Product Sales and Quantity Trend by Month



Notice the graph shows the number of sales and the products sold on a volatile trend by the month. However, there is a particular month these two variables have an equal meeting point. In February 2022 when total sales were IDR 8,202,311.59 with 268,933 products sold.

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Total Sales and Quantity by Customer

	Date	InvoiceID	CustomerName	ProductName	TotalQuantity	Price	Sales
1.	Jan 31, 2022	IN6263	APOTEK SINAR JAYA	AMPICILLIN	130	Rp10,690.6	Rp1,389,778
2.	Apr 19, 2022	IN6316	APOTEK SINAR JAYA	AMPICILLIN	120	Rp10,690.6	Rp1,282,872
3.	Jan 27, 2022	IN6074	KLINIK GM	AMPICILLIN	98	Rp10,690.6	Rp1,047,678.8
4.	Jan 27, 2022	IN6124	KLINIK GM	AMPICILLIN	95	Rp10,690.6	Rp1,015,607
5.	Feb 7, 2022	IN6181	KLINIK SAHABAT	PARACETAMOL	130	Rp6,940.3	Rp902,239
6.	Feb 11, 2022	IN6319	APOTEK MAJA	TRAMADOL KAPSUL 50 MG	98	Rp8,700.7	Rp852,668.6
7.	Apr 21, 2022	IN5983	KLINIK GM	AMPICILLIN	67	Rp10,690.6	Rp716,270.2
8.	Mar 22, 2022	IN6290	KLINIK GM	AMPICILLIN	67	Rp10,690.6	Rp716,270.2
9.	Feb 10, 2022	IN6234	APOTEK TAPAK	AMPICILLIN	67	Rp10,690.6	Rp716,270.2
10.	Jan 23, 2022	IN6286	APOTEK SAHABAT	AMPICILLIN	120	Rp5,780.7	Rp693,684

1 - 10 / 350 < >

The table shows the details of drug purchases per transaction with whom, when, and in what amount. It makes it easier to check periodically.

For example, on January 27, 2022, with invoice IN6124, Klinik GM perpetuates a purchase of 98 Ampicillin with a price per piece of IDR 10,690.6. So on that date and invoice, Kimia Farma received revenue (sales) of IDR 1,047,678.8 from Klinik GM.



04. Suggestion

- Customer data will be perfect if completed with an address, email, or telephone number that the company can check in more detail regarding proof of transactions.
- Drug stock can conform according to weather conditions or health data in certain areas (which diseases often occur and what drugs are needed) and from sales (which drugs are often purchased) rather than later stock piling up with the expiration date.

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Thank You!



**Open Discussion and Feedback,
We can discuss further through:**



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