



Rakamin
Academy




kimia farma



Business Performance Analysis of Kimia Farma (2020–2023)

Kimia Farma - Big Data Analytics

Presented by

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I am an Information Management graduate with a strong passion for pursuing a career as a Data Analyst. Through my academic journey and project experience, I have built solid skills in Statistics, Excel, SQL, Python, and data visualization using Looker and Tableau. I also completed a Data Analyst bootcamp, where I gained extensive knowledge of data and successfully completed the program with a final project based on a real-world case study. I see data not just as numbers, but as meaningful insights that can support smarter business decisions.



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Courses and **Certification**

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About Company

Kimia Farma is the first pharmaceutical industry company in Indonesia, founded by the Government of the Dutch East Indies in 1817. Initially, the company was named NV Chemicalien Handle Rathkamp & Co. Based on the nationalization policy of former Dutch companies in the early years of independence, in 1958 the Government of the Republic of Indonesia merged several pharmaceutical companies into PNF (Perusahaan Negara Farmasi) Bhinneka Kimia Farma. Then, on August 16, 1971, the legal form of PNF was changed to a Limited Liability Company, and the company's name was changed to PT Kimia Farma (Persero).



<https://www.kimiafarma.co.id/>



@kimiafarma.ind

Project Portfolio

As a Big Data Analytics Intern at Kimia Farma, you will face a series of challenges that require a deep understanding of data and strong analytical skills. One of the main projects is to evaluate Kimia Farma's business performance from 2020 to 2023.

Tasks to be completed:

1). Importing Datasets into BigQuery

In this stage, you are responsible for importing the provided datasets into BigQuery. The datasets used consist of:

- kf_final_transaction.csv
- kf_inventory.csv
- kf_kantor_cabang.csv
- kf_produk.csv

These four datasets must be imported into tables in BigQuery using the same names as the datasets, but without the ".csv" extension.

Repository link

Presentation video link

Project Portfolio

2). Creating an Analysis Table

In this step, you will be asked to create an analysis table based on the aggregation results from the four tables previously imported (kf_final_transaction, kf_inventory, kf_kantor_cabang, and kf_produk).

Column Name	Description
transaction_id	Transaction ID code
date	Date when the transaction was made
branch_id	Kimia Farma branch ID code
branch_name	Name of the Kimia Farma branch
kota	City of the Kimia Farma branch
provinsi	Province of the Kimia Farma branch
rating_cabang	Customer rating for the Kimia Farma branch
customer_name	Name of the customer who made the transaction
product_id	Medicine product code
product_name	Name of the medicine
actual_price	Product price
discount_percentage	Discount percentage applied to the product
persentase_gross_laba	<ul style="list-style-type: none"> • Price ≤ Rp 50,000 → profit 10%, • Price > Rp 50,000 – 100,000 → profit 15%, • Price > Rp 100,000 – 300,000 → profit 20%, • Price > Rp 300,000 – 500,000 → profit 25%, • Price > Rp 500,000 → profit 30%
nett_sales	Price after discount
nett_profit	Profit earned by Kimia Farma
rating_transaksi	Customer rating for the transaction

Project Portfolio

3) Building a Business Performance Dashboard in Google Looker Studio

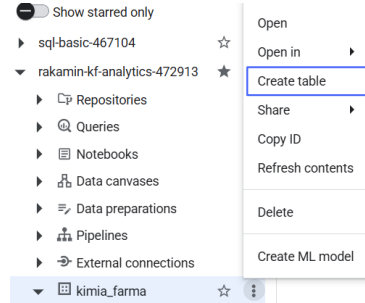
In this project, you are required to create a Business Performance Dashboard of Kimia Farma (2020–2023) using Google Looker Studio. The dashboard should be based on the analysis table you have previously built in BigQuery, which must be connected as the data source in Looker Studio.

- Dashboard Title
- Dashboard Summary
- Filter Controls
- Data Snapshots
- Year-over-year comparison of Kimia Farma's revenue
- Top 10 provinces by total transactions
- Top 10 provinces by net sales
- Top 5 branches with the highest ratings but lowest transaction counts
- Indonesia Geo Map showing total profit by province
- Additional analytical insights that you may further explore

Importing Dataset to BigQuery

First, create a new project with the name Rakamin-KF-Analytics -> create a dataset with the name kimia_farma

Click the three dots next to the dataset and select **Create Table**.



kf_final_transaction
kf_inventory
kf_kantor_cabang
kf_product

A screenshot of the 'Create table' dialog box in BigQuery. The 'Source' section shows 'Create table from' set to 'Upload' and 'Select file' set to 'kf_kantor_cabang.csv'. The 'File format' is set to 'CSV'. The 'Destination' section shows 'Project' set to 'rakamin-kf-analytics-472913' and 'Dataset' set to 'kimia_farma'. The 'Table' name is 'kf_kantor_cabang'. The 'Table type' is 'Native table'. The 'Schema' section has 'Auto detect' checked. The 'Create table' button is highlighted.

A form will appear. Fill in the required fields, select your file, and name the table. Check Auto-Detect under the schema options. Click **Create Table**. Repeat the process for the remaining tables.

All tables were created successfully

Importing Dataset to BigQuery

The result

rakamin-kf-analytics-472913 / ... / kf_final_transaction [Query](#)

[Schema](#) [Details](#) [Preview](#) [Table Explorer](#) [Preview](#) [Insight](#)

☐ Filter Enter property name or value

<input type="checkbox"/>	Field name	Type	Mode	Description
<input type="checkbox"/>	transaction_id	STRING	NULLABLE	-
<input type="checkbox"/>	date	DATE	NULLABLE	-
<input type="checkbox"/>	branch_id	INTEGER	NULLABLE	-
<input type="checkbox"/>	customer_name	STRING	NULLABLE	-
<input type="checkbox"/>	product_id	STRING	NULLABLE	-
<input type="checkbox"/>	price	INTEGER	NULLABLE	-
<input type="checkbox"/>	discount_percentage	FLOAT	NULLABLE	-
<input type="checkbox"/>	rating	FLOAT	NULLABLE	-

rakamin-kf-analytics-472913 / ... / kf_kantor_cabang [Query](#)

[Schema](#) [Details](#) [Preview](#) [Table Explorer](#) [Preview](#)

☐ Filter Enter property name or value

<input type="checkbox"/>	Field name	Type	Mode
<input type="checkbox"/>	branch_id	INTEGER	NULLABLE
<input type="checkbox"/>	branch_category	STRING	NULLABLE
<input type="checkbox"/>	branch_name	STRING	NULLABLE
<input type="checkbox"/>	kota	STRING	NULLABLE
<input type="checkbox"/>	provinsi	STRING	NULLABLE
<input type="checkbox"/>	rating	FLOAT	NULLABLE

rakamin-kf-analytics-472913 / ... / kf_inventory [Query](#)

[Schema](#) [Details](#) [Preview](#) [Table Explorer](#) [Preview](#)

☐ Filter Enter property name or value

<input type="checkbox"/>	Field name	Type	Mode
<input type="checkbox"/>	Inventory_ID	STRING	NULLABLE
<input type="checkbox"/>	branch_id	INTEGER	NULLABLE
<input type="checkbox"/>	product_id	STRING	NULLABLE
<input type="checkbox"/>	product_name	STRING	NULLABLE
<input type="checkbox"/>	opname_stock	INTEGER	NULLABLE

rakamin-kf-analytics-472913 / ... / kf_product [Query](#)

[Schema](#) [Details](#) [Preview](#) [Table Explorer](#) [Preview](#)

☐ Filter Enter property name or value

<input type="checkbox"/>	Field name	Type	Mode
<input type="checkbox"/>	product_id	STRING	NULLABLE
<input type="checkbox"/>	product_name	STRING	NULLABLE
<input type="checkbox"/>	product_category	STRING	NULLABLE
<input type="checkbox"/>	price	INTEGER	NULLABLE

Analysis Table

rakamin-kf-analytics-472913 / ... / kf_final_analysis Query

Schema Details Preview Table Explorer

Filter Enter property name or value

<input type="checkbox"/>	Field name	Type	Mode	Des
<input type="checkbox"/>	transaction_id	STRING	NULLABLE	-
<input type="checkbox"/>	date	DATE	NULLABLE	-
<input type="checkbox"/>	branch_id	INTEGER	NULLABLE	-
<input type="checkbox"/>	branch_name	STRING	NULLABLE	-
<input type="checkbox"/>	kota	STRING	NULLABLE	-
<input type="checkbox"/>	provinsi	STRING	NULLABLE	-
<input type="checkbox"/>	rating_cabang	FLOAT	NULLABLE	-
<input type="checkbox"/>	customer_name	STRING	NULLABLE	-
<input type="checkbox"/>	product_id	STRING	NULLABLE	-
<input type="checkbox"/>	product_name	STRING	NULLABLE	-
<input type="checkbox"/>	actual_price	INTEGER	NULLABLE	-
<input type="checkbox"/>	discount_percentage	FLOAT	NULLABLE	-
<input type="checkbox"/>	persentase_gross_lab	FLOAT	NULLABLE	-
<input type="checkbox"/>	nett_sales	FLOAT	NULLABLE	-
<input type="checkbox"/>	nett_profit	FLOAT	NULLABLE	-
<input type="checkbox"/>	rating_transaksi	FLOAT	NULLABLE	-

Untitled query Run Schedule Open in More Save Download Share

```
1 SELECT
2 *
3 FROM
4 'rakamin-kf-analytics-472913.kimia_farma.kf_final_analysis';
```

Query completed

Query results Save results Open in

Job information Results Visualization JSON Execution details Execution graph

Row	transaction_id	date	branch_id	branch_name	kota	provinsi	rating_cabang	customer_name	product_id	product_name
1	TRX5455288	2023-02-21	31935	Kimia Farma - Apotek	Tangerang	Banten	4.4	Juan Bentley	KF172	Psycholeptics drugs, Hypnotic
2	TRX2571152	2021-04-13	61344	Kimia Farma - Apotek	Padang	Sumatera Barat	4.7	Patricia Williams	KF172	Psycholeptics drugs, Hypnotic
3	TRX6453359	2021-09-19	12027	Kimia Farma - Apotek	Pangkalpinang	Bangka Belitung	4.8	Patrick Martinez	KF172	Psycholeptics drugs, Hypnotic
4	TRX5758357	2023-07-20	83742	Kimia Farma - Apotek	Pematangsiantar	Sumatera Utara	4.8	Robin Brown	KF172	Psycholeptics drugs, Hypnotic
5	TRX6978726	2022-05-26	93878	Kimia Farma - Apotek	Semarang	Jawa Tengah	4.5	Suzanne Miller	KF172	Psycholeptics drugs, Hypnotic

This analysis table is named **kf_final_analysis**.

This table was created using a SQL query in BigQuery by joining four source tables (kf_final_transaction, kf_inventory, kf_branch_office, and kf_produk). The goal of this process is to produce a consolidated dataset containing all the columns required for analysis.

BigQuery Syntax

Create a new table, named "kf_final_analysis"

query-make-table-analysis Run Open in More Save query

```

1 CREATE OR REPLACE TABLE `rakamin-kf-analytics-472913.kimia_farma.kf_final_analysis` AS
2 WITH laba AS (
3   SELECT
4     a.transaction_id,
5     a.price,
6     a.discount_percentage,
7     CASE
8       WHEN a.price <= 50000 THEN 0.10
9       WHEN a.price > 50000 AND a.price <= 100000 THEN 0.15
10      WHEN a.price > 100000 AND a.price <= 300000 THEN 0.20
11      WHEN a.price > 300000 AND a.price <= 500000 THEN 0.25
12      WHEN a.price > 500000 THEN 0.30
13    END AS persentase_gross_laba,
14     (a.price * (1 - a.discount_percentage)) AS nett_sales
15   FROM rakamin-kf-analytics-472913.kimia_farma.kf_final_transaction a
16 )
17
18 SELECT
19   t.transaction_id,
20   t.date,
21   c.branch_id,
22   c.branch_name,
23   c.kota,
24   c.provinsi,
25   c.rating AS rating_cabang,
26   t.customer_name,
27   p.product_id,
28   p.product_name,
29   t.price AS actual_price,
30   t.discount_percentage,
31   l.persentase_gross_laba,
32   l.nett_sales,
33   (l.nett_sales * l.persentase_gross_laba) AS nett_profit,
34   t.rating AS rating_transaksi
35 FROM rakamin-kf-analytics-472913.kimia_farma.kf_final_transaction t
36 JOIN rakamin-kf-analytics-472913.kimia_farma.kf_product p
37   ON t.product_id = p.product_id
38 JOIN rakamin-kf-analytics-472913.kimia_farma.kf_kantor_cabang c
39   ON t.branch_id = c.branch_id
40 JOIN laba l
41   ON t.transaction_id = l.transaction_id;
42

```

Create a kf_final_analysis table, with the query CREATE to create and REPLACE to update the data if necessary.

A Common Table Expression (CTE) named 'laba'. This CTE focuses only on calculations using CASE WHEN and nett_sales, so those calculations can be recalled in the main SELECT without rewriting the CASE.

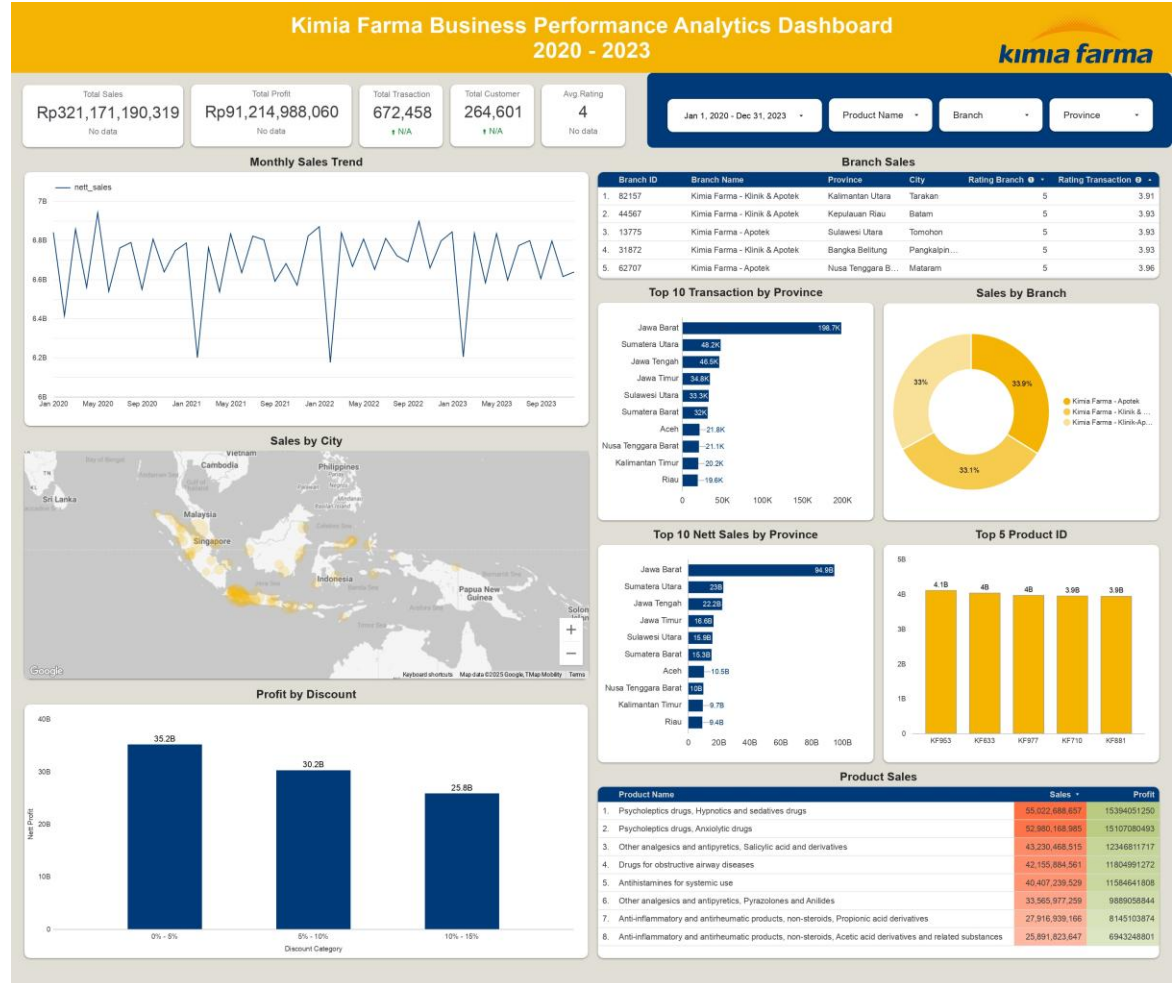
Syntax Query link

SELECT get columns from another table to insert into a new table. Use AS to rename the columns and also get the columns from the CTE 'laba'

FROM is used to specify the source of the retrieved column. After that, use JOIN to retrieve data from another table that has the same ID.

Dashboard Analytics

Dashboard Kimia Farma





Thank You



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X



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