

Business Performance Analytics 2020 - 2023

Kimia Farma - Big Data Analytics

Presented by
Handi Widiansyah



Disclaimer

Anda dapat mengganti design template ini sesuai kreativitas kalian. Anda dapat menambahkan slide sesuai kebutuhan.

Template ini hanya bertujuan untuk memberikan gambaran isi konten yang wajib dibuat oleh peserta. Silahkan hapus slide ini setelah anda membuat salinan dokumen ini di drive Anda

Handi Widiansyah

Data Enthusiast

Fresh graduate from Metallurgical Engineering, University of Indonesia, with interests in the fields of Data Analyst, Data Scientist, and Business Intelligence. Experienced in Data Analyst positions in manufacturing production. Have expertise in the use of SQL, Python and Data Visualization languages. Continue to increase experience and knowledge in the world of Data Science through bootcamps, courses, competitions and projects. With a relentless commitment to learning and innovation, I am ready to make significant contributions to drive the success of data-driven companies.



Jakarta, Indonesia



handiwidiansyah@gmail.com



[Handi Widiansyah | LinkedIn](#)

Courses and Certification

| | |
|---|-------------|
| SQL: A Practical Introduction for Querying Databases <link certificate> | <Mar, 2024> |
| SQL for Data Analysis <link certificate> | <Feb, 2024> |
| Intro to Data Analytics <link certificate> | <Dec, 2023> |
| Intro to Programming <link certificate> | <Feb, 2024> |
| Analyzing and Visualizing Data With Power BI <link certificate> | <Mar, 2024> |

About Company

Kimia Farma was the first pharmaceutical industrial company in Indonesia which was founded by the Dutch East Indies Government in 1817. The name of this company was originally NV Chemicalien Handle Rathkamp & Co. Based on the nationalization policy of former Dutch companies in the early days of independence, in 1958, the Government of the Republic of Indonesia merged a number of pharmaceutical companies into PNF (Pharmaceutical State Company) Bhinneka Kimia Farma. Then on August 16 1971, the legal entity form of PNF was changed to a Limited Liability Company, so the company name changed to PT Kimia Farma (Persero).



Project Portfolio

As a Big Data Analytics Intern at Kimia Farma, I am faced with a series of challenges that require a deep understanding of data and analytical skills. One of my main projects is evaluating Kimia Farma's business performance from 2020 to 2023. With the existing dataset, namely:

- kf_final_transaction
- kf_inventory
- kf_branch_office
- kf_product

I created a new analysis table which is a datamart using the Google Cloud BigQuery platform. From the analysis table that was created using SQL, I created a report in the form of data visualization using Looker Studio. The report is then presented via video presentation.

Project repository [here!](https://github.com/handiwidiansyah/Project-based-Internship-Kimia-Farma-Big-Data-Analytics.git)

<https://github.com/handiwidiansyah/Project-based-Internship-Kimia-Farma-Big-Data-Analytics.git>

Project explanation video [here!](https://youtu.be/8KatwB24GFs)

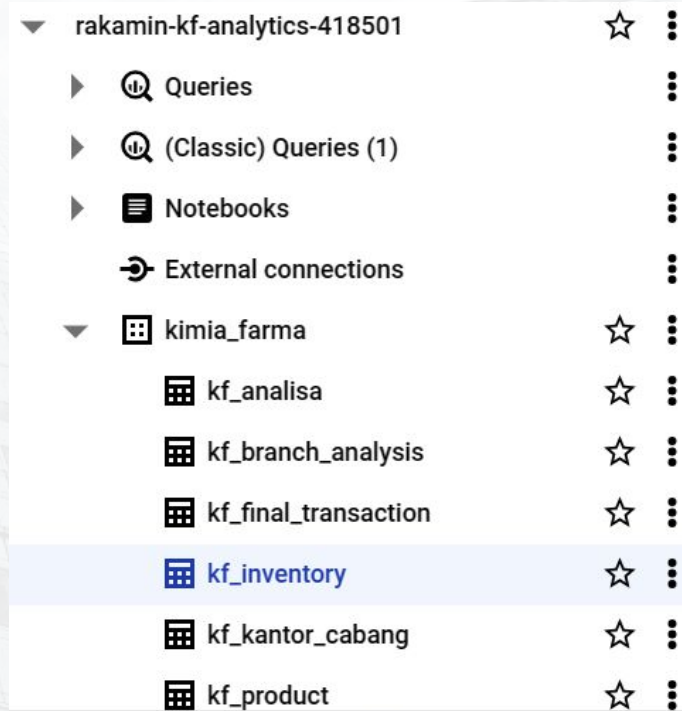
<https://youtu.be/8KatwB24GFs>

1. Importing Dataset to BigQuery

The first thing I did was **import the table**. The table provided includes:

- Kf_final_transaction
- Kf_inventory
- Kf_branch_office
- kf_product

In BigQuery, the first thing I did was **create a new project** called "Rakamin_KF_Analytics". After creating the project, I **created a new dataset** with the name "kimia_farma" inside the project "Rakamin_KF_Analytics". Finally, I **imported** the given table into the "kimia_farma" dataset.



2. Tabel Analisa

Next, I **created an analysis table** using a query in BigQuery. There are several columns that must be present in the analysis table. The analysis table is then named "kf_analisa" which can be seen in the preview in the following image.

| Row | transaction_id | date | branch_id | branch_name | kota | provinsi | rating_cabang | customer_name | product_id | product_name | actual_price | discount_percentage | payment_gross | net_value | net_profit | rating_transaksi |
|-----|----------------|------------|-----------|-------------------------------------|-----------------|------------------|---------------|--------------------|------------|----------------------------------|--------------|---------------------|---------------|------------------|-------------------|------------------|
| 1 | TRX5103706 | 2021-08-25 | 93529 | Kimia Farma - Klinik & Apotek | Yogyakarta | DI Yogyakarta | 4.3 | Derrick Wright III | KP116 | Psycholeptics drugs, Hypnotic... | 251700 | 0.1 | 0.2 | 226530.0 | 45306.0 | 3.0 |
| 2 | TRX5368139 | 2020-12-29 | 26932 | Kimia Farma - Klinik & Apotek La... | Pekantaran | Riau | 4.2 | Elizabeth Ramos | KP116 | Psycholeptics drugs, Hypnotic... | 251700 | 0.12 | 0.2 | 221496.0 | 46224.00000100... | 3.0 |
| 3 | TRX7231897 | 2020-02-03 | 20505 | Kimia Farma - Apotek | Cilecep | Jawa Tengah | 4.5 | Meghan Warner | KP116 | Psycholeptics drugs, Hypnotic... | 251700 | 0.09 | 0.2 | 229047.0 | 25809.4 | 3.0 |
| 4 | TRX2423675 | 2022-04-04 | 17678 | Kimia Farma - Klinik & Apotek | Subang | Jawa Barat | 4.8 | Steven Roberts | KP116 | Psycholeptics drugs, Hypnotic... | 251700 | 0.1 | 0.2 | 226530.0 | 45306.0 | 3.0 |
| 5 | TRX3456820 | 2020-06-20 | 28315 | Kimia Farma - Klinik & Apotek La... | Sukabumi | Jawa Barat | 3.9 | Linda Bruce DDS | KP116 | Psycholeptics drugs, Hypnotic... | 251700 | 0.07 | 0.2 | 234080.999999... | 46619.2 | 3.0 |
| 6 | TRX1212133 | 2021-09-17 | 22280 | Kimia Farma - Apotek | Betam | Kepulauan Riau | 4.5 | Cory Castro | KP116 | Psycholeptics drugs, Hypnotic... | 251700 | 0.11 | 0.2 | 224013.0 | 44802.60000100... | 3.0 |
| 7 | TRX2020121 | 2020-12-16 | 40028 | Kimia Farma - Klinik & Apotek La... | Selikipapan | Kalimantan Timur | 4.0 | Stephanie Soone | KP116 | Psycholeptics drugs, Hypnotic... | 251700 | 0.03 | 0.2 | 244149.0 | 48829.8 | 3.0 |
| 8 | TRX3012870 | 2021-08-17 | 41948 | Kimia Farma - Apotek | Semarang | Jawa Tengah | 4.0 | Mary Hughes | KP116 | Psycholeptics drugs, Hypnotic... | 251700 | 0.08 | 0.2 | 244149.0 | 48829.8 | 3.0 |
| 9 | TRX7040777 | 2021-06-21 | 86546 | Kimia Farma - Klinik & Apotek | Pematangsiantar | Sumatera Utara | 4.5 | Tamara Bruce | KP116 | Psycholeptics drugs, Hypnotic... | 251700 | 0.04 | 0.2 | 241632.0 | 48326.4 | 3.0 |
| 10 | TRX3079742 | 2020-12-31 | 18235 | Kimia Farma - Klinik & Apotek | Pekanbaru | Riau | 4.8 | Aaron Reed | KP116 | Psycholeptics drugs, Hypnotic... | 251700 | 0.11 | 0.2 | 224013.0 | 44802.60000100... | 3.0 |
| 11 | TRX2209141 | 2021-03-26 | 59571 | Kimia Farma - Klinik & Apotek La... | Tekalon | Kalimantan Utara | 4.9 | Nancy Kennedy | KP116 | Psycholeptics drugs, Hypnotic... | 251700 | 0.1 | 0.2 | 226530.0 | 45306.0 | 3.0 |
| 12 | TRX5885534 | 2023-03-17 | 69280 | Kimia Farma - Klinik & Apotek La... | Purwakarta | Jawa Barat | 4.0 | Paul Morleo | KP116 | Psycholeptics drugs, Hypnotic... | 251700 | 0.11 | 0.2 | 224013.0 | 44802.60000100... | 3.0 |
| 13 | TRX9155292 | 2020-04-11 | 29626 | Kimia Farma - Klinik & Apotek | Bitung | Sulawesi Utara | 4.6 | Stephen Jones | KP116 | Psycholeptics drugs, Hypnotic... | 251700 | 0.02 | 0.2 | 256666.0 | 49335.20000100... | 3.0 |
| 14 | TRX1702562 | 2022-04-15 | 48540 | Kimia Farma - Klinik & Apotek | Berut | Jawa Barat | 3.9 | Zachary White | KP116 | Psycholeptics drugs, Hypnotic... | 251700 | 0.12 | 0.2 | 221496.0 | 46224.00000100... | 3.0 |
| 15 | TRX8025780 | 2022-10-19 | 37915 | Kimia Farma - Klinik & Apotek | Cangur | Jawa Barat | 3.9 | Jennifer Larsen | KP116 | Psycholeptics drugs, Hypnotic... | 251700 | 0.13 | 0.2 | 218979.0 | 43795.8 | 3.0 |
| 16 | TRX3208671 | 2023-12-20 | 65925 | Kimia Farma - Klinik & Apotek | Medan | Jawa Timur | 4.3 | Michael Moody | KP116 | Psycholeptics drugs, Hypnotic... | 251700 | 0.09 | 0.2 | 239115.0 | 47823.0 | 3.0 |

3. BigQuery Syntax

I created a syntax to create an analysis table with the required columns using the "**CREATE TABLE**", "**JOIN**" function and there is also "**CASE WHEN**". To make visualization easier, I created an additional table called "kf_branch_analysis".

```
1 CREATE TABLE kimia_farma.kf_analisa AS
2 SELECT
3     ft.transaction_id,
4     ft.date,
5     ft.branch_id,
6     kc.branch_name,
7     kc.kota,
8     kc.provinsi,
9     kc.rating AS rating_cabang,
10    ft.customer_name,
11    ft.product_id,
12    p.product_name,
13    p.price AS actual_price,
14    ft.discount_percentage,
15    CASE
16        WHEN p.price <= 50000 THEN 0.10
17        WHEN p.price <= 100000 THEN 0.15
18        WHEN p.price <= 300000 THEN 0.20
19        WHEN p.price <= 500000 THEN 0.25
20        ELSE 0.30
21    END AS persentase_gross_laba,
22    (p.price * (1-discount_percentage)) AS nett_sales,
23    (p.price * (1-discount_percentage)) * CASE WHEN p.price <= 50000 THEN 0.10
24                                            WHEN p.price <= 100000 THEN 0.15
25                                            WHEN p.price <= 300000 THEN 0.20
26                                            WHEN p.price <= 500000 THEN 0.25
27                                            ELSE 0.30
28    END AS nett_profit,
29    ft.rating AS rating_transaksi
30 FROM kimia_farma.kf_final_transaction AS ft
31 LEFT JOIN kimia_farma.kf_kantor_cabang AS kc
32 ON (ft.branch_id = kc.branch_id)
33 LEFT JOIN kimia_farma.kf_product AS p
34 ON (ft.product_id = p.product_id);
```

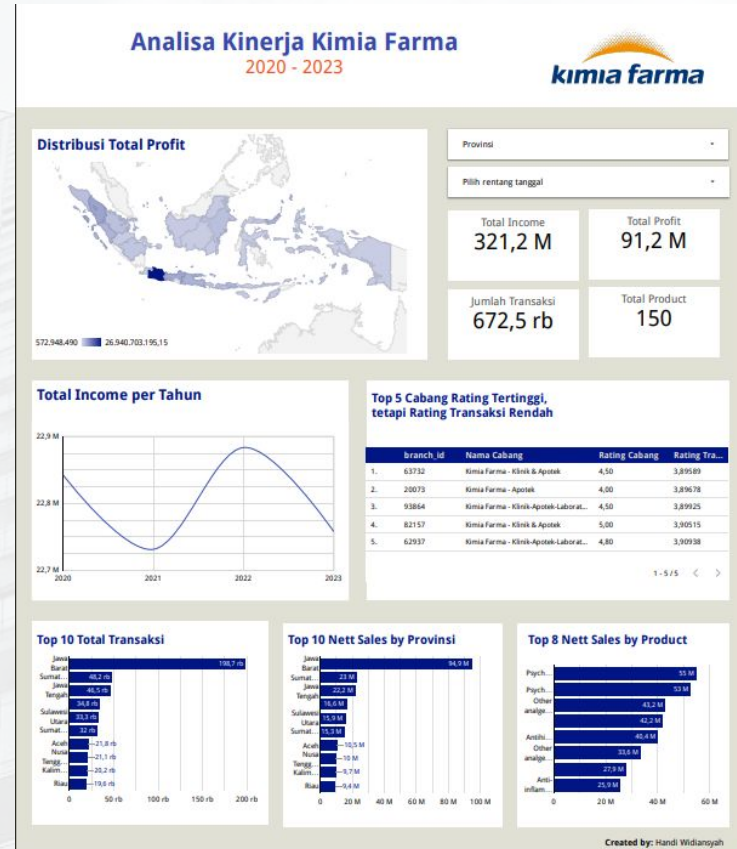
```
1 CREATE TABLE kimia_farma.kf_branch_analysis AS
2 SELECT kc.branch_id,
3        kc.branch_name,
4        AVG(ft.rating) AS rating_transaction,
5        kc.rating AS rating_branch
6 FROM kimia_farma.kf_kantor_cabang AS kc
7 LEFT JOIN kimia_farma.kf_final_transaction AS ft
8 ON (kc.branch_id = ft.branch_id)
9 GROUP BY kc.branch_id, kc.branch_name, kc.rating
10 ORDER BY AVG(ft.rating) ASC, kc.rating DESC
11 ;
12
```

4. Dashboard Performance Analytics

Then, from the analysis table that was created with a query, I visualized the data using Looker Studio.

Project Dashboard [here!](https://lookerstudio.google.com/reporting/eeffe0ce-e4e6-4304-9eb0-4fb5aba63761)

<https://lookerstudio.google.com/reporting/eeffe0ce-e4e6-4304-9eb0-4fb5aba63761>



Thank You



Rakamin
Academy



kimia farma