

Sales Performance Analytics Dahsboard

Kimia Farma - Big Data Analytics

Presented by Muhammad Cikal Merdeka





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Dedicated entry-level data scientist with analytical and experimental background of Physics. My graduation 2023, a pivotal year marked by significant advancements in artificial intelligence with the introduction of GPT-4 and other generative Al models, has fueled my curiosity and excitement to delve into the field of data. I have comprehensive grasp of data science methodology from business understanding to modelling process with proficiency in **Python**, **SQL**, **Tableau**, **Power BI**, **Looker Studio and other tools** related to data analytics workflow from several coursework and bootcamps.

Experience



Laboratory Assistant
Institut Teknologi Bandung
August 2020 – May 2021

Education

Institut Teknologi Bandung
Bachelor of Physics
August 2018 – January 2023

Rakamin Academy
Data Science ML Specialization Bootcamp
October 2023 – March 2024

Portfolio Case Study Rakamin Academy



Kimia Farma is a state-owned enterprise Indonesian pharmaceutical company established in 1817, plays a vital role in Indonesia's healthcare sector, contributing to public health and wellness. It operates in the production, distribution, and retail of pharmaceutical products, including medicines, healthcare supplies, and medical devices. In this task we want to analyze the sales performance of its products over period of January 2020 - December 2023. Based on the data tables provided by the company, including Total Transactions, Inventory, Products, and Office Branch, we will perform visualizations aimed at determining:

- Year-on-year Revenue Comparison of Kimia Farma
- Top 10 Branches by Total Transactions in Each Province
- Top 10 Branches by Net Sales in Each Province
- Top 5 Branches with the Highest Ratings but Lowest Transaction Ratings
- Geo Map of Indonesia Showing Total Profit by Each Province
- (and other kinds of visualizations, depends on us)

Then, these visualizations we will gather business insights. The tech stack that we will be using are Google BigQuery (SQL) and Looker Studio.

Stage 1: Master Table Formulation



```
ft.transaction id.
      kc.branch id.
      kc.branch name
     kc.provinsi,
     kc.rating AS rating_cabang,
     ft.customer_name,
     p.product_id,
     p.product_name,
     p.price AS actual_price.
     ft.discount_percentage.
        WHEN p.price <= 50000 THEN 0.10
        WHEN p.price <= 100000 THEN 0.15
        WHEN p.price <= 300000 THEN 0.20
        WHEN p.price <= 500000 THEN 0.25
       ELSE 0.30
     END AS persentase_gross_laba,
     p.price * (1 - ft.discount_percentage / 100) AS nett_sales,
     p.price * (1 - ft.discount_percentage / 100) *
          WHEN p.price <= 50000 THEN 0.10
          WHEN p.price <= 100000 THEN 0.15
          WHEN p.price <= 300000 THEN 0.20
         WHEN p.price <= 500000 THEN 0.25
         FLSE 0.30
        END AS nett_profit.
     ft.rating AS rating_transaksi
      rakamin-kimia-farma-pbi.FinalProject.kf_final_transaction ft
    JOIN rakamin-kimia-farma-pbi.FinalProject.kf_kantor_cabang_kc_ON_ft.branch_id = kc.branch_id
34 JOIN rakamin-kimia-farma-pbi.FinalProject.kf product p ON ft.product id = p.product id
```

Before conducting the analysis in the form of a dashboard in Looker Studio, we need to merge the four tables by selecting columns that contain relevant information about what we will analyze, as explained in the query earlier. Here is the result of the master table.

The master table is directly loaded/connected to Looker Studio for analysis and not exported as csv in local because the size is too large (135 MB) for importing in Looker Studio through local (max 100 MB).

JOB INFORMATION RESULTS CHART JSON EXECUTION DETAILS EXECUTION GRAPH									
Row	transaction_id ▼	date ▼	branch_id ▼	branch_name ▼	kota ▼	provinsi ▼	rating_cabang ▼	customer_name ▼	product_id ▼
1	TRX5103706	2021-08-25	93529	Kimia Farma - Klinik & Apotek	Yogyakarta	DI Yogyakarta	4.3	Derrick Wright III	KF116
2	TRX5388139	2020-12-29	24832	Kimia Farma - Klinik-Apotek-La	Pekanbaru	Riau	4.2	Elizabeth Ramos	KF116
3	TRX7251897	2020-02-03	20505	Kimia Farma - Apotek	Cilacap	Jawa Tengah	4.5	Meghan Warner	KF116
4	TRX4943675	2022-09-09	17678	Kimia Farma - Klinik & Apotek	Subang	Jawa Barat	4.8	Steven Roberts	KF116
5	TRX3469820	2020-06-20	28315	Kimia Farma - Klinik-Apotek-La	Sukabumi	Jawa Barat	3.9	Linda Bruce DDS	KF116

Stage 2: Dashboard Creation



kımıa farma

Sales Report Dashboard

January 2020 - December 2023

Province - Product Category -

Select date range -

nuary 2020 - December 202

City

Branch Category •

Avg Transa

Avg Branch Rating

Total Profit

Total Sales

4

4.45

346.96B

Top 10 Sales by Province

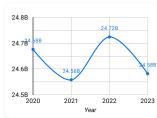
	Province	Transaction Amount	Nett Sales ▼
1.	Jawa Barat	198.72K	29.10B
2.	Sumatera Utara	48.18K	7.04B
3.	Jawa Tengah	46.49K	6.82B
4.	Jawa Timur	34.77K	5.10B
5.	Sulawesi Utara	33.34K	4.88B
6.	Sumatera Barat	32.01K	4.70B
7.	Aceh	21.83K	3.21B
8.	Nusa Tenggara Bar	21.07K	3.08B
9.	Kalimantan Timur	20.24K	2.98B
10.	Riau	19.61K	2.87B

Sales by Product Category

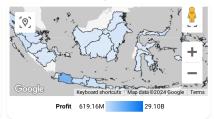
	Product Category	Transaction Amount	Nett Sales
1.	Psycholeptics drugs, Hypno	134.85K	59.43B
2.	Psycholeptics drugs, Anxiol	107.21K	57.23B
3.	Other analgesics and antipy	85.07K	46.70B
4.	Drugs for obstructive airwa	89.92K	45.54B
5.	Antihistamines for systemic	71.79K	43.65B
6.	Other analgesics and antipy	58.03K	36.28B
7.	Anti-inflammatory and antir	58.23K	30.16B
8.	Anti-inflammatory and antir	67.37K	27.97B

Sales Profit by Year

98.54B



Geo Map of Profit



Branch with Highest Rating but Lowest Transaction Rating

	Branch ID	Branch Category	City	Branch Rating	Transaction Rating
1.	13775	Kimia Farma - Apotek	Tomohon	5	3
2.	46253	Kimia Farma - Klinik-Apot	Cirebon	5	3
3.	94651	Kimia Farma - Klinik-Apot	Probolinggo	5	3
4.	87242	Kimia Farma - Klinik-Apot	Samarinda	5	3
5.	40671	Kimia Farma - Klinik & Ap	Dumai	5	3

Summary: West Java is the province with the largest density of transactions to profits. The distribution of transactions and profits is fairly evenly spread across provinces outside Java. The category of psycholeptics drugs is the most needed by the community and anti-inflammatory and antirheumatic drugs are the least purchased. The overall sales profit fluctuates up and down each year from 2020 to 2023, but the differences that occur are not significant each year. Overall, branch ratings and transactions are at an average value that can be considered safe. The 5 branches with the highest rating but the lowest transaction rating should be studied further to analyze what suggestions need to be given to improve customer satisfaction.

*explanation about the dashboard is included in the Summary part.

Thank You





