

PERFORMANCE

ANALYTICS




BUSSINESS YEAR 2020-2023

KIMIA FARMA- BIG DATA ANALYTICS

ABOUT ME



I am a Mathematics graduate from UIN Maulana Malik Ibrahim Malang with a strong interest in data, including data analysis, data entry, and administration. As a data enthusiast, I continuously hone my skills through various courses and internship experiences to understand and process data effectively using different data visualization tools such as Tableau and Google Looker Studio. With strong analytical skills and attention to detail, I am committed to delivering accurate and valuable data-driven solutions.

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ABOUT COMPANY

PT Kimia Farma Tbk. is a leading pharmaceutical company in Indonesia, specializing in the manufacturing, distribution, and sales of medicines and other healthcare products. Established in 1817, the company has a long-standing history in Indonesia's pharmaceutical industry. As part of a state-owned enterprise (BUMN) group, Kimia Farma is committed to improving public health across the country.



Over the years, PT Kimia Farma Tbk has expanded into an integrated healthcare company in Indonesia. This growth is supported by its involvement in pharmaceutical manufacturing, research and development, distribution and trade, marketing, retail pharmacies, clinical laboratories, and healthcare clinics. The company's pharmaceutical production includes chemical drugs, formulations, and herbal medicines, divided into six production lines: ethical drugs, over-the-counter medicines, generics, narcotics, licensed products, and raw materials. Kimia Farma accommodates almost all therapeutic classes, offering more than 385 products that are distributed nationwide and exported to several countries through its distribution network or partners. As part of its corporate social responsibility, Kimia Farma remains committed to ensuring a steady supply of generic medicines to the market.

OVERVIEW

STUDY CASE

Designing a Business Performance Analytics Dashboard for 2020-2023. This dashboard will make it easier to evaluate Kimia Farma's business performance from 2020 to 2023, including branch performance, product analysis, sales performance, transaction and seasonal patterns, and performance based on location

GOALS

Gain insights from various business performance aspects that serve as case studies in this project.

DATASET

There are 4 datasets used, that is:

1. kf_final_transaction.csv
2. kf_inventory.csv
3. kf_kantor_cabang.csv
4. kf_product.csv

TOOLS



PROJECT PORTFOLIO

As a Big Data Analytics Intern at Kimia Farma, the tasks I carried out involved a series of challenges that required a deep understanding of data and analytical skills. One of my main projects was evaluating Kimia Farma's business performance from 2020 to 2023. Here are the tasks I performed:

- Importing Data Set To Big Query
- Creating analysis table
- Creating dashboard performance analysis

IMPORTING DATASET TO BIGQUERY



Steps:

- 1. Go to Google Cloud Console
- 2. Select Big Query
- 3. Select the dataset that was make before
- 4. Click Create Table button
- 5. In the source section, choose the data source, upload for a local file
- 6. Select file and choose the dataset and table name
- 7. Configure the schema and click create table

kf_final_transaction

Field name	Type
transaction_id	STRING
date	DATE
branch_id	INTEGER
customer_name	STRING
product_id	STRING
price	INTEGER
discount_percentage	FLOAT
rating	FLOAT

kf_kantor_cabang

Field name	Type
branch_id	INTEGER
branch_category	STRING
branch_name	STRING
kota	STRING
provinsi	STRING
rating	FLOAT

kf_inventory

Field name	Type
Inventory_ID	STRING
branch_id	INTEGER
product_id	STRING
product_name	STRING
opname_stock	INTEGER

kf_product

Field name	Type
product_id	STRING
product_name	STRING
product_category	STRING
price	INTEGER

TABEL ANALISA

In this task, an analysis table is created based on the aggregation results from the four previously imported tables. The following are the mandatory columns in the table that is **transaction_id**, **date**, **branch_id**, **branch_name**, **city**, **province**, **branch_rating**, **customer_name**, **product_id**, **product_name**, **actual_price**, **discount_percentage**, **persentase_gross_laba**; based on the following conditions:

- Price ≤ Rp 50,000 → 10% profit
- Price > Rp 50,000 - 100,000 → 15% profit
- Price > Rp 100,000 - 300,000 → 20% profit
- Price > Rp 300,000 - 500,000 → 25% profit
- Price > Rp 500,000 → 30% profit

nett_sales, **nett_profit**, **transaction_rating** and additional column that is **opname_stock**

PREVIEW

Row	transaction_id	date	branch_id	branch_name	kota	provinsi	product_id	product_name	customer_name
1	TRX3520532	2020-01-01	40682	Kimia Farma - Klinik & Apotek	Gorontalo	Gorontalo	KF172	Psycholeptics drugs, Hypnotics...	Dr. David Bray
2	TRX3160373	2020-01-01	67373	Kimia Farma - Apotek	Subang	Jawa Barat	KF427	Other analgesics and antipyretics, Salicylic acid and derivatives	Karen Lewis
3	TRX9384287	2020-01-01	42307	Kimia Farma - Apotek	Dumai	Riau	KF943	Other analgesics and antipyretics, Salicylic acid and derivatives	Maria Sanders

customer_name	actual_price	discount_perce	transaction_rati	branch_rating	persentase_gros	nett_sales	nett_profit	opname_stock
Dr. David Bray	2100	0.07	4.8	4.9	0.1	1953.0	63.0	83
Karen Lewis	3100	0.13	4.3	4.6	0.1	2697.0	-93.0	93
Maria Sanders	5500	0.09	4.5	4.6	0.1	5005.0	55.0	79


```

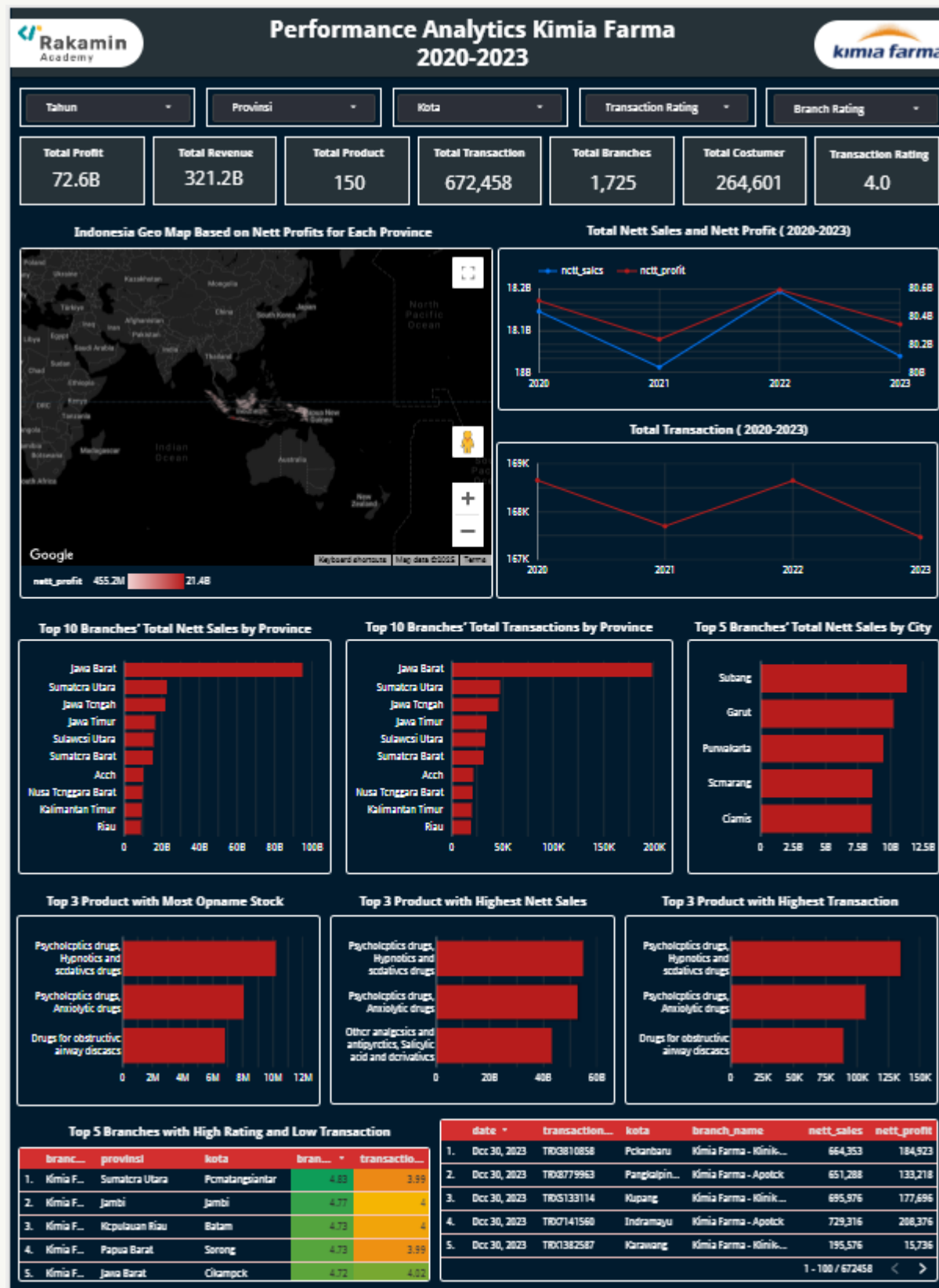
1  --Membuat tabel baru untuk menyimpan hasil tabel analisa
2  CREATE OR REPLACE TABLE 'rakamin-kf-analytics-449818.kimia_farma.kf_tabel_analisa' AS
3  --Memilih kolom yang akan ada di tabel analisa
4  SELECT
5      transaction_id,          --kode id transaksi
6      date,                   --tanggal transaksi dilakukan
7      branch_id,              --kode id cabang Kimia Farma
8      branch_name,            --nama cabang Kimia Farma
9      kota,                   --kota cabang Kimia Farma
10     provinsi,               --provinsi cabang Kimia Farma
11     product_id,             --kode produk obat
12     product_name,           --nama obat
13     customer_name,          --nama customer yang melakukan transaksi
14     actual_price,            --harga obat
15     discount_percentage,     --persentase diskon yang diberikan pada obat
16     transaction_rating,      --penilaian konsumen terhadap transaksi yang dilakukan
17     branch_rating,          --penilaian konsumen terhadap cabang Kimia Farma
18     persentase_gross_laba,   --persentase laba yang diterima dari obat
19     nett_sales,              --harga setelah diskon
20     (actual_price * persentase_gross_laba) - (actual_price - nett_sales) AS nett_profit, --keuntungan Kimia Farma
21     opname_stock             --stok obat yang tersedia
22 FROM (
23     SELECT
24         ft.transaction_id,
25         ft.date,
26         ft.branch_id,
27         cb.branch_name,
28         cb.kota,
29         cb.provinsi,
30         ft.product_id,
31         cp.product_name,
32         ft.customer_name,
33         ft.price AS actual_price,
34         ft.discount_percentage,
35         ft.rating AS transaction_rating,
36         cb.rating AS branch_rating,
37         ci.opname_stock,
38         --Menghitung persentase_gross_laba
39         CASE
40             WHEN ft.price <= 50000 THEN 0.10
41             WHEN ft.price > 50000 AND ft.price <= 100000 THEN 0.15
42             WHEN ft.price > 100000 AND ft.price <= 300000 THEN 0.20
43             WHEN ft.price > 300000 AND ft.price <= 500000 THEN 0.25
44             ELSE 0.30
45         END AS persentase_gross_laba,
46
47         -- Menghitung harga setelah diskon
48         (ft.price - (ft.price * (ft.discount_percentage))) AS nett_sales
49
50     -- Mengambil data dari tabel transaksi
51     FROM 'rakamin-kf-analytics-449818.kimia_farma.kf_final_transaction' AS ft
52
53     -- Menggabungkan dengan tabel produk untuk mendapatkan informasi produk
54     LEFT JOIN 'rakamin-kf-analytics-449818.kimia_farma.kf_product' AS cp ON ft.product_id = cp.product_id
55
56     -- Menggabungkan dengan tabel kantor cabang dan produk untuk mendapatkan informasi stok opname
57     LEFT JOIN (
58         SELECT DISTINCT product_id, branch_id, MAX(opname_stock) AS opname_stock
59         FROM 'rakamin-kf-analytics-449818.kimia_farma.kf_inventory'
60         GROUP BY product_id, branch_id) AS ci ON ft.product_id = ci.product_id AND ft.branch_id = ci.branch_id
61
62     -- Menggabungkan dengan tabel kantor cabang untuk mendapatkan informasi cabang
63     LEFT JOIN 'rakamin-kf-analytics-449818.kimia_farma.kf_kantor_cabang' AS cb ON ft.branch_id = cb.branch_id
64 )
65
66 --Mengurutkan data dari tanggal terlama dengan net sales dan net profit tertinggi
67 ORDER BY date ASC, nett_sales, nett_profit DESC
68 :

```

BIGQUERY

SYNTAX

DASHBOARD PERFORMANCE ANALYTICS



- Distribution of revenue and transactions with an average transaction rating of 4.0, indicating quite good customer satisfaction.
- Time trends show fluctuations in net sales and transactions, which can be attributed to external factors and seasonality. This can be used as a timely promotional strategy to increase sales.
- Analysis of transaction patterns shows that there are spikes in certain periods, which can be used for promotional strategies and stock management.
- Branch performance shows that there are branches with high ratings but low transactions, which may require better marketing strategies

THANK
YOU