

### About Company

Kimia Farma is the first pharmaceutical industry company in Indonesia, founded by the Dutch East Indies government in 1817. Initially, the company's name was 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 status of PNF was changed to a limited liability company (Perseroan Terbatas), and the company's name was changed to PT Kimia Farma (Persero).

### Problem Statement

A lack of centralized, data-driven insights makes it challenging for decision-makers to identify growth opportunities, optimize branch performance, and enhance product strategy.

By leveraging data analytics and visualization, this dashboard will enable Kimia Farma to detect sales trends, assess regional strengths and weaknesses, and uncover emerging opportunities for sustainable business growth.

### Goal

This project aims to develop a comprehensive interactive dashboard that visualizes key performance indicators (KPIs)—including total sales, regional performance, product category trends, and quarterly growth patterns—to evaluate business performance from 2020 to 2023. The objective is to provide business leaders with actionable insights to enhance strategic planning, optimize resource allocation, and strengthen market positioning in 2024.

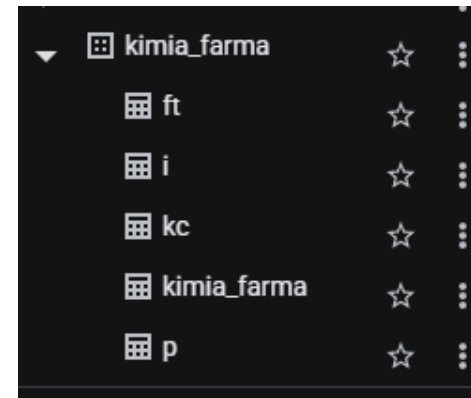
### Data Gathering

The dataset is obtained from Kimia Farma's internal data, sourced from four .csv files. It records sales transaction details, including customer information, products, pricing, discounts, and ratings.

### Data Selection

The four available files were selected for analysis and imported to Google BigQuery using SQL for data preparation and dashboarding. The files include:

```
kf_final_transaction.csv  
kf_inventory.csv  
kf_kantor_cabang.csv  
kf_product.csv
```



Import four datasets and create relational tables using primary and foreign keys for better understanding. Integrate 'ft' (final transaction), 'p' (product), 'kc' (kantor cabang), and 'i' (inventory) data. Add the kimia\_farma table to the kimia\_farma dataset in BigQuery.

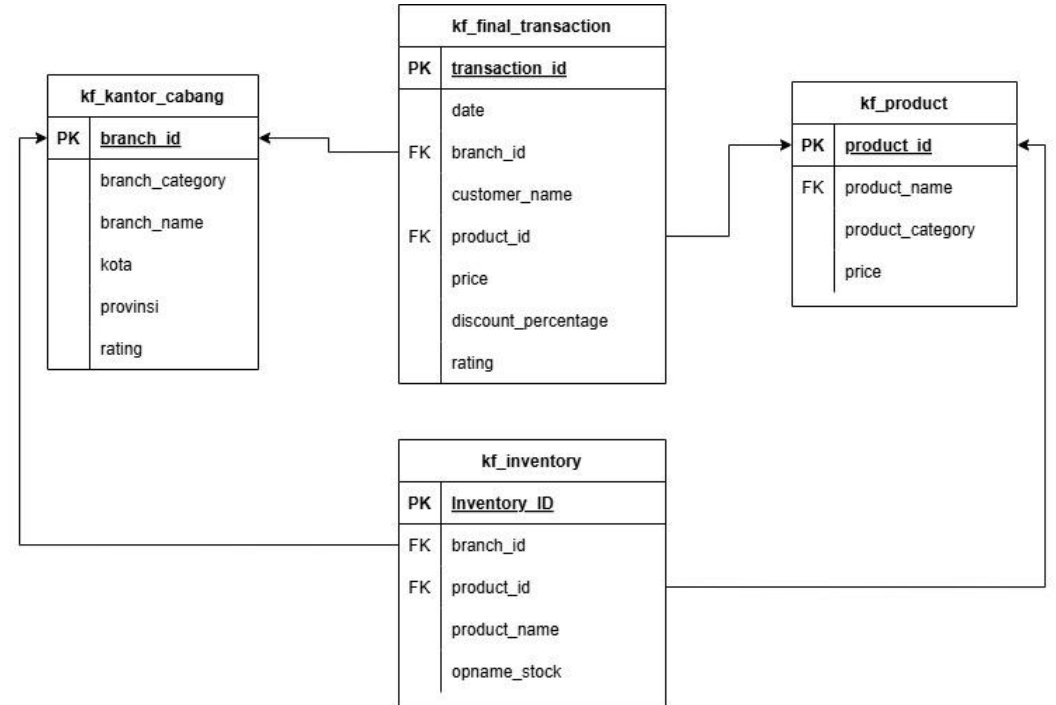
Schema	Details	Preview	Table Explorer	Preview
<input type="checkbox"/>	transaction_id	STRING	NULLABLE	
<input type="checkbox"/>	date	DATE	NULLABLE	
<input type="checkbox"/>	branch_id	INTEGER	NULLABLE	
<input type="checkbox"/>	customer_name	STRING	NULLABLE	
<input type="checkbox"/>	product_id	STRING	NULLABLE	
<input type="checkbox"/>	price	INTEGER	NULLABLE	
<input type="checkbox"/>	discount_percentage	FLOAT	NULLABLE	
<input type="checkbox"/>	rating_transaksi	FLOAT	NULLABLE	
<input type="checkbox"/>	product_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"/>	branch_name	STRING	NULLABLE	
<input type="checkbox"/>	persentase_gross_laba	FLOAT	NULLABLE	
<input type="checkbox"/>	nett_sales	FLOAT	NULLABLE	
<input type="checkbox"/>	nett_profit	FLOAT	NULLABLE	

This analysis table presents transaction, product, and branch data from Kimia Farma for the years 2020–2023, covering pricing, discounts, and profit margins. The goal of this analysis is to identify post-pandemic sales and profitability trends, thereby supporting strategic decision-making to enhance business efficiency and growth in 2024.

'kimia\_farma' table consists of 16 features/columns and a total of 672,458 entries.

### Data Modelling

An Entity Relationship Diagram (ERD) was created to visualize the relationships among all tables and ensure proper data structure for analysis.



### Data Cleaning and Formatting

Only relevant columns were retained, and necessary merges were performed to consolidate the data into a single .csv file.

Additional computed columns include:

- **persentase\_gross\_laba:** The expected profit percentage based on the product price:

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:** The final price after applying discounts.
- **nett\_profit:** The profit earned by Kimia Farma.

## BigQuery Syntax

```
1  -- rename column 'rating' into 'rating_transaksi'
2  ALTER TABLE kimia_farma.ft
3  RENAME COLUMN rating TO rating_transaksi;
4
5  -- rename column 'rating' into 'rating_cabang'
6  ALTER TABLE kimia_farma.kc
7  RENAME COLUMN rating TO rating_cabang;
8
```

Rename both 'rating' columns to reflect their specific meanings: use 'rating\_transaksi' for the transaction rating and 'rating\_cabang' for the branch rating.

```
50 CREATE TABLE kimia_farma.kimia_farma AS
51 SELECT DISTINCT
52   ft.*,
53   i.product_name,
54   kc.kota,
55   kc.provinsi,
56   kc.rating_cabang,
57   kc.branch_name,
58
59   -- Calculate 'persentase_gross_laba' based on price ranges
60   CASE
61     WHEN ft.price <= 50000 THEN 0.10
62     WHEN ft.price > 50000 AND ft.price <= 100000 THEN 0.15
63     WHEN ft.price > 100000 AND ft.price <= 300000 THEN 0.20
64     WHEN ft.price > 300000 AND ft.price <= 500000 THEN 0.25
65     WHEN ft.price > 500000 THEN 0.30
66   END AS persentase_gross_laba,
67
68   -- Calculate 'nett_sales' (price after discount)
69   ROUND(ft.price * (1 - ft.discount_percentage / 100), 2) AS nett_sales,
70
71   -- Calculate 'nett_profit' (profit obtained by Kimia Farma)
72   ROUND(ft.price * (1 - ft.discount_percentage / 100) *
73     CASE
74       WHEN ft.price <= 50000 THEN 0.10
75       WHEN ft.price > 50000 AND ft.price <= 100000 THEN 0.15
76       WHEN ft.price > 100000 AND ft.price <= 300000 THEN 0.20
77       WHEN ft.price > 300000 AND ft.price <= 500000 THEN 0.25
78       WHEN ft.price > 500000 THEN 0.30
79     END, 2) AS nett_profit
80
81 FROM kimia_farma.ft AS ft
82 LEFT JOIN kimia_farma.i AS i
83   ON ft.product_id = i.product_id
84   AND ft.branch_id = i.branch_id
85 LEFT JOIN kimia_farma.kc AS kc
86   ON ft.branch_id = kc.branch_id;
87
```

### Table Creation

Creates a new table in the kimia\_farma schema, named kimia\_farma.

### Select Distinct

Ensures duplicate rows are removed to select relevant columns from the table, including transaction, product, and branch information.

### CASE Statement

This CASE block assigns a percentage value to 'persentase\_gross\_laba' (gross profit margin) based on the price range.

### Calculate 'nett\_sales' and 'net\_profit'

Computes the net sales by applying the discount to the price. Calculates the net profit by applying the discount to the price and then multiplying by the gross margin percentage

### JOIN

Left joins to product table a using 'product\_id' and 'branch\_id' and Left joins to the branch table kantor cabang using 'branch\_id'.

## Summary

Created by: Bintang Philosophie  
[Linked In](#)

kimia farma

# Dashboard Performance Analytics Kimia Farma:

## Summary | Business Year 2020-2023



Select date



provinsi



kota



branch\_id



product\_n...

Reset Filter



Nett Sales

Rp346.962B



Profit

Rp98.540B



Transactions

672,458



Transaction Rating

4



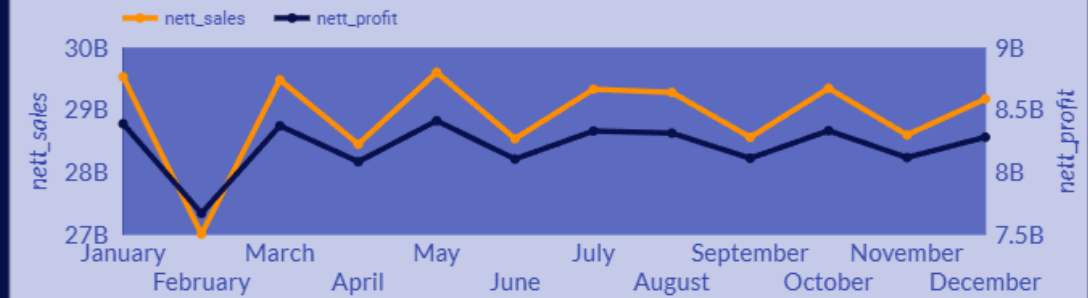
Number of Branch

1,725

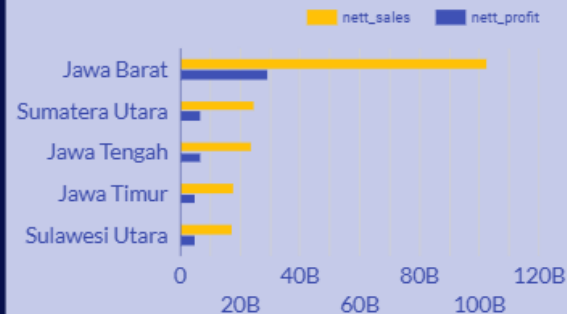
### Yearly Sales



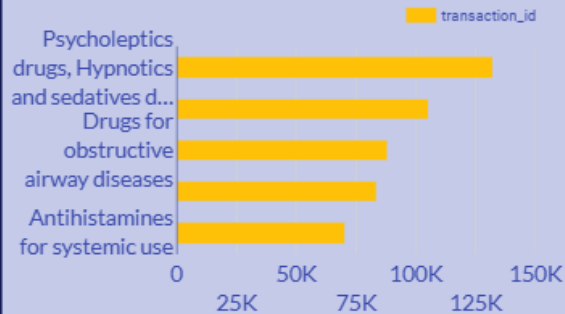
### Monthly Sales



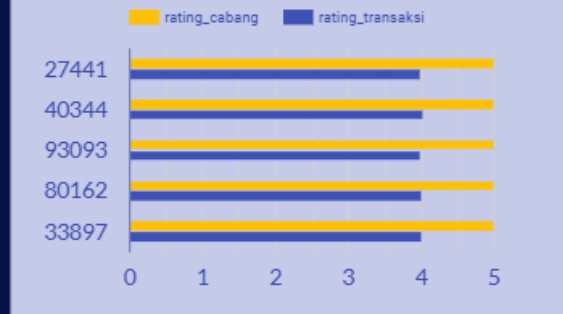
### Top Province



### Top Product Transaction



### Branch Rating



kimia farma

# Dashboard Performance Analytics Kimia Farma:

## Branch Analysis | Business Year 2020-2023

Select date

provinsi

kota

branch\_id

product\_n...

Reset Filter



Top Branch ID

53167



Top Province

Jawa Barat



Top City

Subang



Top Transaction Rating



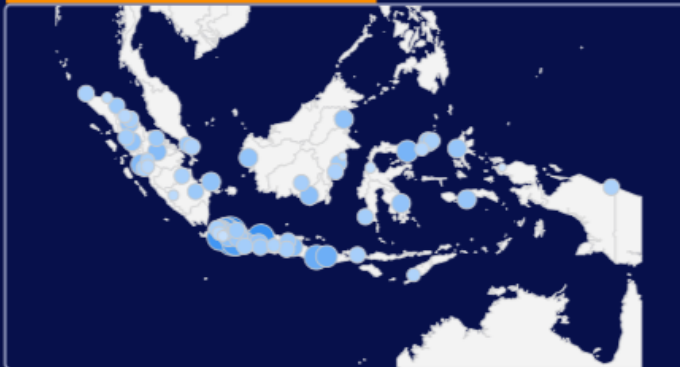
5



Top Branch Rating

5

### Geomap Sales



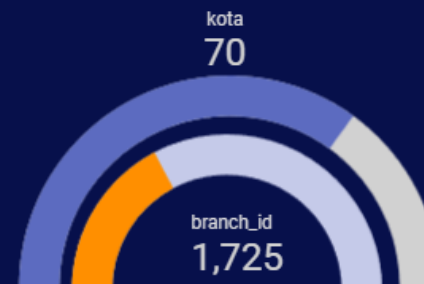
### Branch ID

	branc...	provinsi	kota ②	nett_s... ①	nett_profit	rating_tran...
1.	53167	Maluku	Ambon	238.8M	68.2M	4.01
2.	19393	Jawa Tengah	Magelang	237.8M	68M	3.97
3.	88378	Sumatera Utara	Pematangsiantar	236.2M	67.6M	4.03
4.	53721	Nusa Tenggara B...	Mataram	236.2M	67.6M	4.04
5.	67598	Sumatera Utara	Tebing Tinggi	235.4M	67.4M	3.97
6.	79907	Kalimantan Timur	Samarinda	234.7M	67.2M	3.99
7.	23647	Jawa Tengah	Semarang	233.9M	67.4M	4.01

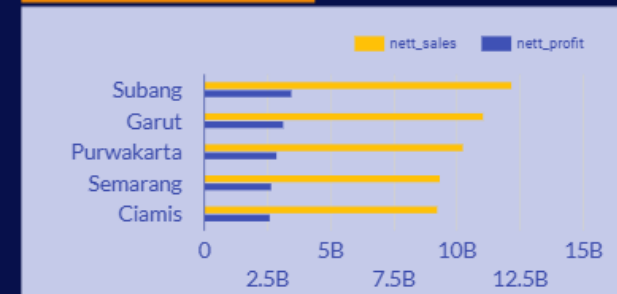
### Branch Distribution

	provinsi	kota ②	br... ①
1.	Jawa Barat	Subang	61
2.	Jawa Barat	Garut	55
3.	Jawa Barat	Purwakarta	51
4.	Jawa Barat	Ciamis	46
5.	Jawa Tengah	Semarang	46
6.	Jawa Barat	Sukabumi	45

### Number of Branch



### Sales per City



kimia farma

# Dashboard Performance Analytics Kimia Farma:

## Product Analysis | Business Year 2020-2023



Select date ▾



provinsi ▾



kota ▾



branch\_id ▾



product\_n... ▾

Reset Filter



Top Product ID

KF953



Top Product Name

Psycholeptics drugs, Hypnotics and sedatives dr

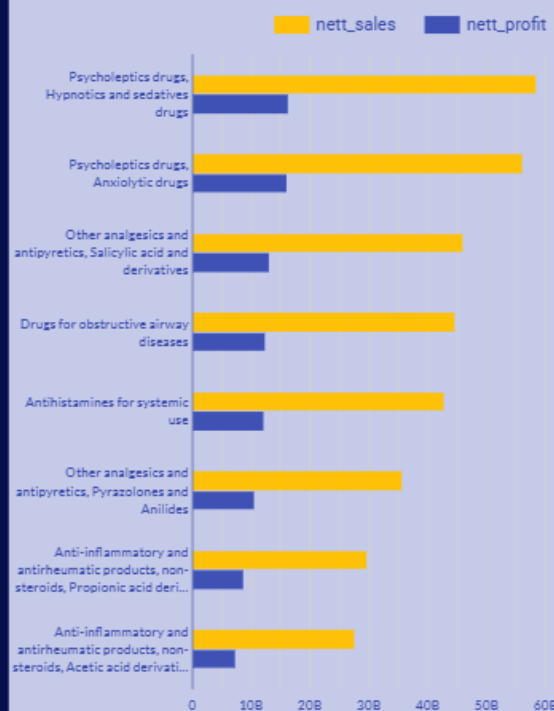
Number of Product Name

8

Number of Product ID

150

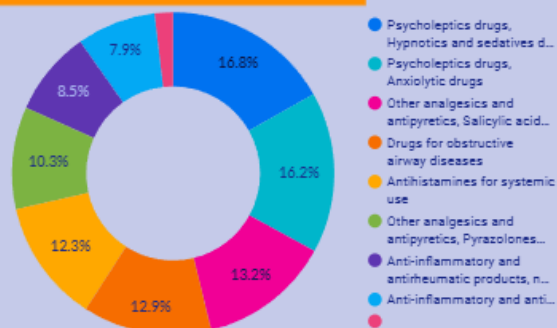
### Sales per Product Name



### Product ID

	produc...	product_name	price	nett_sa...	nett_profit	rating_trans...
1.	KF953	Drugs for obst...	997500	4.4B	1.3B	4
2.	KF633	Other analgesi...	962800	4.3B	1.3B	4
3.	KF977	Anti-inflamma...	986400	4.2B	1.3B	4.01
4.	KF881	Other analgesi...	944200	4.2B	1.3B	4
5.	KF710	Antihistamines...	958000	4.2B	1.3B	3.99
6.	KF483	Psycholeptics ...	943000	4.1B	1.2B	4
7.	KF957	Psycholeptics ...	953000	4.1B	1.2B	4.01

### Product Sales



### Product Price

Other analgesics and antipyre...	null : 522,940...	Anti-inflamma...
Antihista...	Other analgesics a...	Psycholeptics drug...
Psycholeptics dru...	Drugs for...	Anti-inflammatory...

## Analysis of Data

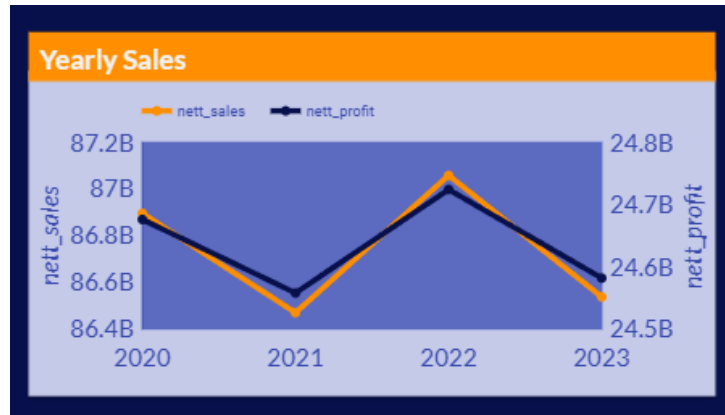
### Summary

#### Statistical finding:

Nett Sales	Profit	Transactions	Transaction Rating	Number of Branch
Rp346.962B	Rp98.540B	672,458	4	1,725

The total sales from **672,458 transactions** amounted to **Rp 346.962 billion**, generating **a profit of Rp 98.540 billion**. Gained **from 1.725 branch** with average transaction rating is 4 out of 5. Healthy volume of sales and transactions with a high branch footprint. Average transaction rating of 4 suggests good customer experience but potential room for improvement.

#### Sales and Profit:



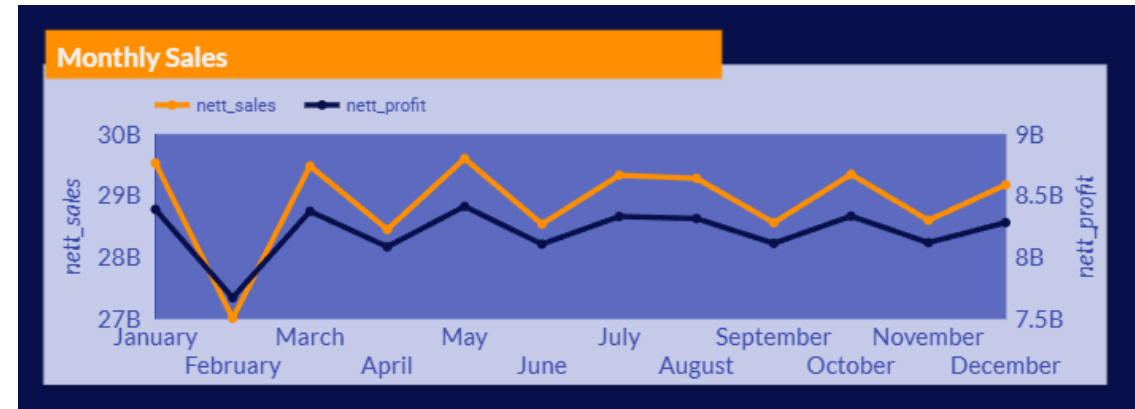
**Profit and sales dipped in 2021** but recovered in 2022 and 2023. Kimia Farma net sales and net profit in 2020 – 2023 period:

- 2020 = nett sales 86,89B, nett profit 24,67B
- 2021 = nett sales 86,47B, nett profit 24,55B
- 2022 = nett sales 87,05B, nett profit 24,72B
- 2023 = nett sales 86,53B, nett profit 24,58B

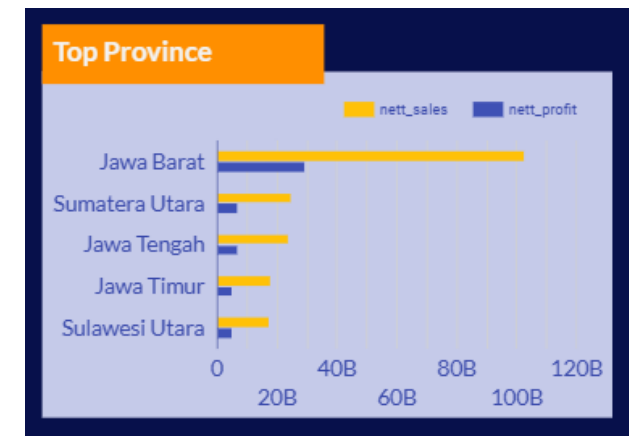
COVID-19 might have impacted 2021. Strong rebound afterward, indicating operational resilience.

**Monthly sales trends show clear seasonal spikes**, particularly between March and June and again in the October to November period. Possible links to seasonal illnesses, promotions, or campaigns.

These patterns **suggest** an opportunity for the company to strategically align its marketing and inventory efforts with high-demand periods, possibly linked to health-related seasonality or promotional campaigns.

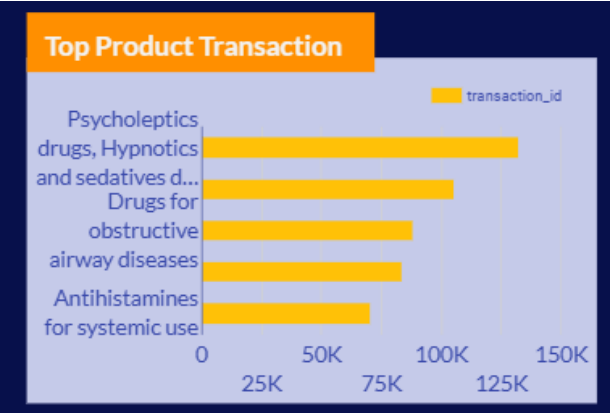


Geographically, provinces like **Jawa Barat, Sumatera Utara, and Jawa Tengah** stand out as the top contributors to sales and profit. Kimia Farma would benefit from ensuring regulatory compliance in these areas while **considering expanding** related product lines.

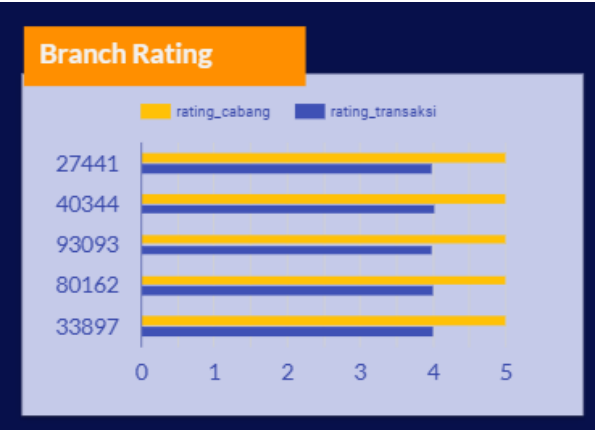




Products in the **psychoactive and neurological categories dominate** transaction volume. This indicates that mental health-related products are a major revenue driver. Kimia Farma would benefit from ensuring regulatory compliance in these areas while considering **expanding related product lines**. Likely high demand in **mental health or sleep disorder segment**.



**Branch ratings** across the board **remain fairly consistent**, ranging narrowly between 3.97 and 4.04 among top 5 branch. While this uniformity is promising, it also points to a **need for targeted improvements** through staff training and service quality initiatives.



### Branch Analysis

**Statistical finding:**

The data suggests that **top Branch ID is 53167**. Top sales located in **Subang city**, and top provinces located in **Jawa Barat**. Both the top transaction rating and branch rating is 5 (the maximum possible score).

	Top Branch ID		Top Province		Top City		Top Transaction Rating		Top Branch Rating
	53167		Jawa Barat		Subang	☆☆☆	5	☆☆☆☆☆	5

The branch analysis page further reinforces the importance of specific locations such as Subang in Jawa Barat, which **consistently performs well**. Sales concentration remains heaviest in Java and Sumatra, supported by both population density and number of branch distributed.





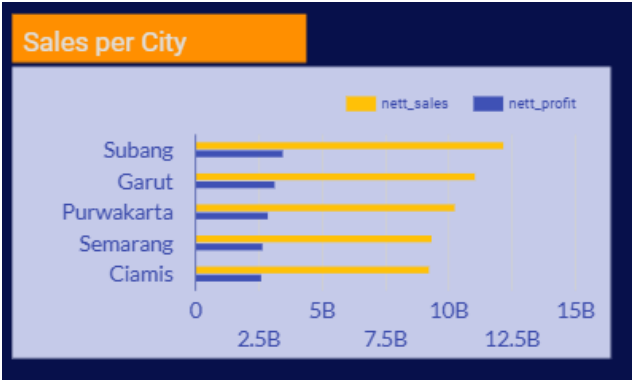
The top-performing branch based on ratings and performance metrics is **Branch ID 53167, located in Ambon, Maluku**. It stands out with the highest net sales of 238.8 million and a net profit of 68.2 million. Despite not being located in the region with the densest branch network, it maintains a transaction rating of 4.01, indicating solid customer satisfaction.

Branch ID					
	branc...	provinsi	kota ② ▾	nett_s... ① ▾	nett_profit rating_tran...
1.	53167	Maluku	Ambon	238.8M	68.2M 4.01
2.	19393	Jawa Tengah	Magelang	237.8M	68M 3.97
3.	88378	Sumatera Utara	Pematangsiantar	236.2M	67.6M 4.03
4.	53721	Nusa Tenggara B...	Mataram	236.2M	67.6M 4.04
5.	67598	Sumatera Utara	Tebing Tinggi	235.4M	67.4M 3.97
6.	79907	Kalimantan Timur	Samarinda	234.7M	67.2M 3.99
7.	23647	Jawa Tengah	Semarang	233.9M	67.4M 4.01

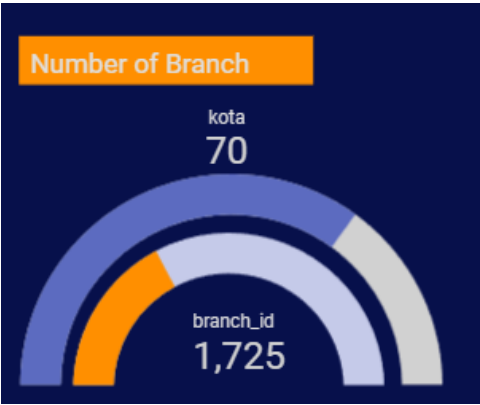
Additionally, from the branch distribution perspective, Jawa Barat emerges as the **most saturated region**, with multiple cities such as Garut, Purwakarta, and Sukabumi also featuring prominently in terms of branch count. This geographic concentration suggests a strategic **focus on market penetration in populous or economically active areas**.

Branch Distribution			
	provinsi	kota ② ▲	br... ① ▾
1.	Jawa Barat	Subang	61
2.	Jawa Barat	Garut	55
3.	Jawa Barat	Purwakarta	51
4.	Jawa Barat	Ciamis	46
5.	Jawa Tengah	Semarang	46
6.	Jawa Barat	Sukabumi	45

West Java Province is home **to four of the top five cities** with the highest sales and profits—Subang, Garut, Purwakarta, and Ciamis—highlighting its dominance in national sales performance. The fifth city, Semarang, is located in Central Java. The ranking of these cities also aligns with the distribution of Kimia Farma branches, indicating **a strong correlation** between branch presence and sales performance.



Between 2020 and 2023, Kimia Farma expanded **to 1,725 branches across 70 cities in 31 provinces** throughout Indonesia.

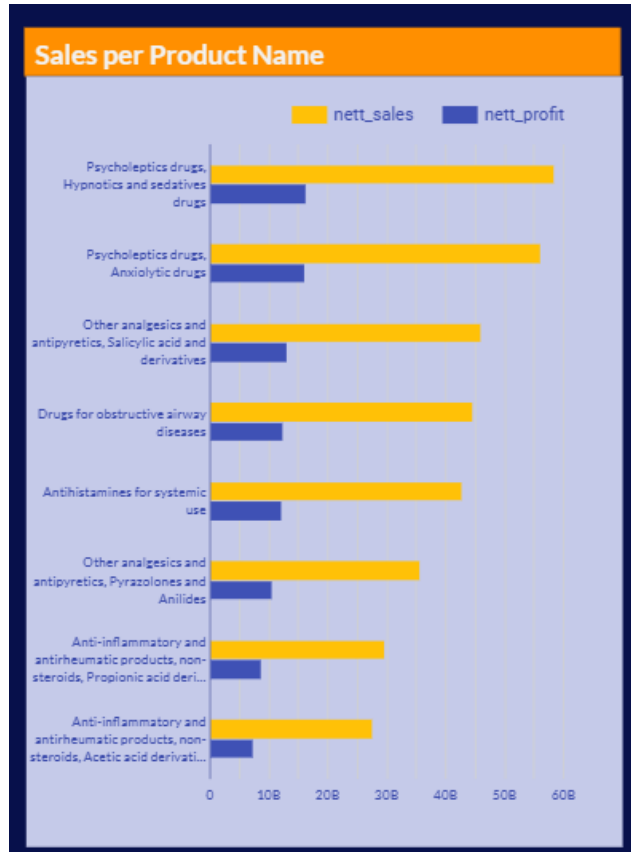


## Product Analysis

### Statistical finding:

Statistical analysis reveals that **Product ID KF953** and product types such as **psychoactive medications** lead in both revenue and transaction volume. Kimia Farma offers a portfolio of **150 products**, categorized into **8 distinct drug name** classifications.

Top Product ID	Top Product Name	Number of Product Name	Number of Product ID
KF953	Psycholeptics drugs, Hypnotics and sedatives dr	8	150



**Psycholeptics (Hypnotics/Sedatives and Anxiolytics) and Analgesics** show the highest sales and profits. All top products have a good balance of sales and profit, with Hypnotics/Sedatives leading in both. Focus marketing and stock efforts on Psycholeptics and Analgesics. These are the most in-demand and profitable, so ensure they're well-supplied and promoted.

**Prioritize stock and promotion** for top products like psycholeptics, pain relievers, and airway treatments, especially in high-performing branches.

Top 7 products have similar prices (~950k–997k IDR) and profits (~1.2–1.3B IDR). All maintain strong ratings (around 4.0), indicating **consistent customer satisfaction**.

**Maintain pricing strategy**, as it aligns with high sales and satisfaction. Consider **bundling or promoting** these products more to increase volume.

Product ID		product_name	price	nett_sa...	nett_profit	rating_trans...
1.	KF953	Drugs for obst...	997500	4.4B	1.3B	4
2.	KF633	Other analgesi...	962800	4.3B	1.3B	4
3.	KF977	Anti-inflamma...	986400	4.2B	1.3B	4.01
4.	KF881	Other analgesi...	944200	4.2B	1.3B	4
5.	KF710	Antihistamines...	958000	4.2B	1.3B	3.99
6.	KF483	Psycholeptics ...	943000	4.1B	1.2B	4
7.	KF957	Psycholeptics ...	953000	4.1B	1.2B	4.01

Psycholeptics dominate sales (over 30% combined), followed by Analgesics and Anti-inflammatory drugs. Allocate more resources (budget, shelf space) to the top-selling categories. **Their share indicates strong and sustained demand.**

**Top-selling products are not the most expensive.** Sales volume matters more than high prices. Keep prices in the current range (~950k–990k IDR). Avoid pricing too high, as affordability supports high sales



## Conclusion

### Summary Analysis:

The total sales from 672,458 transactions amounted to Rp 346.962 billion, generating a profit of Rp 98.540 billion. Gained from 1.725 branch with average transaction rating is 4 out of 5. Lowest sales happened in 2021 and the highest happened in the next year.

### Branch Analysis:

Kimia Farma expanded to 1,725 branches across 70 cities in 31 provinces throughout Indonesia.. With West Java dominates in both the number of branches and top-performing cities, with Subang leading. There is a strong correlation between branch presence and high sales/profit.

### Product Analysis:

Psycholeptics and analgesics are the best-selling and most profitable products, priced competitively and well-rated. Product success is driven by volume rather than high pricing.

## More Further

- Created by:: **Bintang Philosophie**

- To dashboard:



- To creator:



- To GitHub:

