

# Kimia Farma Business Performance

Kimia Farma - Big Data Analytics

Presented by

Mohammad Dwi Irfan Affandi

## Mohammad Dwi Irfan Affandi

I am a 6th-semester Information Systems student at Merdeka University Malang with a strong interest in Data Analysis and Data Science. Throughout my academic journey, I have gained a solid foundation in data analysis, statistics, and information technology, and I have further honed my skills through participation in the MSIB Data Analyst Program at Revou Tech Academy.

My expertise includes:

- Data Cleaning & Preparation: Skilled in cleaning and preparing data to ensure high data quality.
- Data Visualization: Proficient in using Tableau and Power BI to create clear and communicative visualizations.
- Tools: Experienced with SQL, Python, Excel, and other Business Intelligence applications.



Banyuwangi



irfanaffandi151@gmail.com



<https://www.linkedin.com/in/mohammaddwi>

# Courses and Certification

MSIB Revo-U Tech Academy | [https://certificates.revou.tech/?id=CMP-12-24-](https://certificates.revou.tech/?id=CMP-12-24-10244457&name=Mohammad+Dwi+Irfan+Affandi)

[10244457&name=Mohammad+Dwi+Irfan+Affandi](https://certificates.revou.tech/?id=CMP-12-24-10244457&name=Mohammad+Dwi+Irfan+Affandi)

Dec, 2024

Pengenalan Data Pada Pemrograman |

<https://www.dicoding.com/certificates/QLZ9Q8W27Z5D>

Apr, 2023



# About Company

**Kimia Farma is one of the largest and oldest pharmaceutical companies in Indonesia, playing a vital role in providing healthcare products to the public. The company was founded in 1817 by the Dutch government under the name NV Chemicalien Handle Rathkamp & Co., making it a pioneer in Indonesia's pharmaceutical industry. After Indonesia gained independence, the company was nationalized in 1958 and renamed Perusahaan Negara Farmasi (PNF) Bhinneka Kimia Farma. Later, in 1971, it was transformed into a limited liability company (PT) under the name PT Kimia Farma (Persero).**

**Over time, Kimia Farma has continued to grow and expand its business lines, not only as a pharmaceutical manufacturer but also in distribution, healthcare services (clinics and laboratories), and a widespread network of pharmacies across Indonesia. In 2001, Kimia Farma made history by becoming the first pharmaceutical company in Indonesia to go public and be listed on the Indonesia Stock Exchange under the stock code KAEF.**





# Project Portfolio

**To improve its operational effectiveness, Kimia Farma, a leading Indonesian pharmaceutical company, requires a thorough analysis of its business performance. This analysis will use historical data from 2020 to 2023 to identify revenue trends, assess branch performance, and examine how profits are distributed across provinces. The data includes transaction dates, branch and province details, transaction volume, net sales, profit, and transaction ratings. Key areas of focus include year-over-year revenue changes, identifying top-performing branches based on transactions and sales, and highlighting branches with high ratings but lower sales. A geographic map will also illustrate provincial profit distribution. The results of this analysis, presented in an interactive Looker Studio dashboard, are intended to support Kimia Farma's management in making informed strategic decisions.**



Github



Gdrive

# 1. Importing Dataset to BigQuery

Project name \*  
Rakamin-KF-Analytics Save

Project ID  
rakamin-kf-analytics-459814

Project number:  
1004021397695

Dataset info	
Dataset ID	rakamin-kf-analytics-459814.kimia_farma
Created	May 14, 2025, 9:37:01 PM UTC+7
Default table expiration	60 days
Last modified	May 14, 2025, 9:37:01 PM UTC+7
Data location	US
Description	
Default collation	
Default rounding mode	ROUNDING_MODE_UNSPECIFIED
Time travel window	7 days
Case insensitive	false
Labels	
Tags	

analysis_table	☆	⋮
kf_final_transa...	☆	⋮
kf_inventory	☆	⋮
kf_kantor_cab...	☆	⋮
kf_product	☆	⋮

**Buat project dengan nama Rakamin-KF-Analytics**

**Buat dataset dengan nama kimia\_farma**

**Impor data csv yang telah dibuat sebelumnya**

## 2. Tabel Analisa

Kf\_product

kf\_product

Query

Open in ▾

Share

Copy

Snapshot

Delete

Export

Schema

Details

Preview

Table Explorer

Preview

Insights

Lineage

Data Profile

Data Quality

Filter

Enter property name or value

<div><input type="checkbox"/></div> <div>Field name</div>	Type	Mode	Key	Collation	Default Value	Policy Tags <span>?</span>	Description
<div><input type="checkbox"/></div> <div>product_id</div>	STRING	NULLABLE	-	-	-	-	-
<div><input type="checkbox"/></div> <div>product_name</div>	STRING	NULLABLE	-	-	-	-	-
<div><input type="checkbox"/></div> <div>product_category</div>	STRING	NULLABLE	-	-	-	-	-
<div><input type="checkbox"/></div> <div>price</div>	INTEGER	NULLABLE	-	-	-	-	-

- ☐ product\_id: kode produk obat
- ☐ product\_name: nama produk obat
- ☐ product\_category: kategori produk obat
- ☐ price: harga obat

## 2. Tabel Analisa

### Kf\_final\_transaction

📄	kf_final_transaction	🔍 Query	📄 Open in ▾	👤 Share	📄 Copy	📄 Snapshot	🗑️ Delete	📄 Export
Schema	Details	Preview	Table Explorer	Preview	Insights	Lineage	Data Profile	Data Quality
🔍 Filter Enter property name or value								
<input type="checkbox"/>	Field name	Type	Mode	Key	Collation	Default Value	Policy Tags ?	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	-	-	-	-	-

- ☐ transaction\_id: kode id transaksi
- ☐ product\_id : kode produk obat
- ☐ branch\_id: kode id cabang Kimia Farma
- ☐ customer\_name: nama customer yang melakukan transaksi
- ☐ date: tanggal transaksi dilakukan
- ☐ price: harga obat
- ☐ discount\_percentage: Persentase diskon yang diberikan pada obat
- ☐ rating: penilaian konsumen terhadap transaksi yang dilakukan



## 2. Tabel Analisa

### Kf\_inventory

kf\_inventory

Query

Open in ▾

Share

Copy

Snapshot

Delete

Export

Schema

Details

Preview

Table Explorer

Preview

Insights

Lineage

Data Profile

Data Quality

Filter

Enter property name or value

<input type="checkbox"/>	Field name	Type	Mode	Key	Collation	Default Value	Policy Tags ?	Description
<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	-	-	-	-	-

- ☐ inventory\_ID: kode inventory produk obat
- ☐ branch\_id: kode id cabang Kimia Farma
- ☐ product\_id: kode id produk obat
- ☐ product\_name: nama produk obat
- ☐ opname\_stock: jumlah stok produk obat

## 2. Tabel Analisa

### Kf\_kantor\_cabang

kf\_kantor\_cabang [Query](#) [Open in](#) [Share](#) [Copy](#) [Snapshot](#) [Delete](#) [Export](#)

[Schema](#) [Details](#) [Preview](#) [Table Explorer](#) [Preview](#) [Insights](#) [Lineage](#) [Data Profile](#) [Data Quality](#)

[Filter](#) Enter property name or value

<input type="checkbox"/>	Field name	Type	Mode	Key	Collation	Default Value	Policy Tags ?	Description
<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	-	-	-	-	-

- ☐ branch\_id: kode id cabang Kimia Farma
- ☐ branch\_category: kategori cabang Kimia Farma
- ☐ branch\_name: nama kantor cabang Kimia Farma
- ☐ kota: kota cabang Kimia Farma,
- ☐ provinsi: provinsi cabang Kimia Farma
- ☐ rating: penilaian konsumen terhadap cabang Kimia Farma

## 2. Tabel Analisa

### analisis\_table

analysis_table	Query	Open in	Share	Copy	Snapshot	Delete	Export
Schema	Details	Preview	Table Explorer	Insights	Lineage	Data Profile	Data Quality
Filter: Enter property name or value							
Field name	Type	Mode	Key	Collation	Default Value	Policy Tags	Description
transaction_id	STRING	NULLABLE	-	-	-	-	-
date	DATE	NULLABLE	-	-	-	-	-
branch_id	INTEGER	NULLABLE	-	-	-	-	-
branch_name	STRING	NULLABLE	-	-	-	-	-
kota	STRING	NULLABLE	-	-	-	-	-
provinsi	STRING	NULLABLE	-	-	-	-	-
rating_cabang	FLOAT	NULLABLE	-	-	-	-	-
customer_name	STRING	NULLABLE	-	-	-	-	-
product_id	STRING	NULLABLE	-	-	-	-	-
product_name	STRING	NULLABLE	-	-	-	-	-
actual_price	INTEGER	NULLABLE	-	-	-	-	-
discount_percentage	FLOAT	NULLABLE	-	-	-	-	-
nett_sales	FLOAT	NULLABLE	-	-	-	-	-
persentase_gross_laba	FLOAT	NULLABLE	-	-	-	-	-
rating_transaksi	FLOAT	NULLABLE	-	-	-	-	-
nett_profit	FLOAT	NULLABLE	-	-	-	-	-

- ☐ rating\_cabang : penilaian konsumen terhadap cabang Kimia Farma
- ☐ customer\_name : Nama customer yang melakukan transaksi
- ☐ product\_id : kode product obat
- ☐ product\_name : nama obat
- ☐ actual\_price : harga obat
- ☐ discount\_percentage : Persentase diskon yang diberikan pada obat
- ☐ branch\_id : kode id cabang Kimia Farma
- ☐ branch\_name : nama cabang Kimia Farma
- ☐ kota : kota cabang Kimia Farma
- ☐ provinsi : provinsi cabang Kimia Farma
- ☐ transaction\_id : kode id transaksi

## 2. Tabel Analisa

### analisis\_table

analysis_table	Query	Open in	Share	Copy	Snapshot	Delete	Export
Schema	Details	Preview	Table Explorer	Insights	Lineage	Data Profile	Data Quality
Filter Enter property name or value							
Field name	Type	Mode	Key	Collation	Default Value	Policy Tags	Description
transaction_id	STRING	NULLABLE	-	-	-	-	-
date	DATE	NULLABLE	-	-	-	-	-
branch_id	INTEGER	NULLABLE	-	-	-	-	-
branch_name	STRING	NULLABLE	-	-	-	-	-
kota	STRING	NULLABLE	-	-	-	-	-
provinsi	STRING	NULLABLE	-	-	-	-	-
rating_cabang	FLOAT	NULLABLE	-	-	-	-	-
customer_name	STRING	NULLABLE	-	-	-	-	-
product_id	STRING	NULLABLE	-	-	-	-	-
product_name	STRING	NULLABLE	-	-	-	-	-
actual_price	INTEGER	NULLABLE	-	-	-	-	-
discount_percentage	FLOAT	NULLABLE	-	-	-	-	-
nett_sales	FLOAT	NULLABLE	-	-	-	-	-
persentase_gross_laba	FLOAT	NULLABLE	-	-	-	-	-
rating_transaksi	FLOAT	NULLABLE	-	-	-	-	-
nett_profit	FLOAT	NULLABLE	-	-	-	-	-

- ☐ persentase\_gross\_laba : Persentase laba yang seharusnya diterima dari obat dengan ketentuan berikut:
  - Harga  $\leq$  Rp 50.000 -> laba 10%
  - Harga > Rp 50.000 - 100.000 -> laba 15%
  - Harga > Rp 100.000 - 300.000 -> laba 20%
  - Harga > Rp 300.000 - 500.000 -> laba 25%
  - Harga > Rp 500.000 -> laba 30%
- ☐ nett\_sales : harga setelah diskon
- ☐ nett\_profit : keuntungan yang diperoleh Kimia Farma
- ☐ rating\_transaksi : penilaian konsumen terhadap transaksi yang dilakukan.
- ☐ date : tanggal transaksi dilakukan



# 3. BigQuery Syntax

```
-- Membuat atau menggantikan tabel 'analysis_table' di dataset kimia_farma
CREATE OR REPLACE TABLE `rakamin-kf-analytics-459814.kimia_farma.analysis_table` AS

-- Menggunakan CTE (Common Table Expression) bernama transaksi_dengan_margin
WITH transaksi_dengan_margin AS (
  SELECT
    -- Informasi transaksi
    t.transaction_id,
    t.date,

    -- Informasi cabang
    c.branch_id,
    c.branch_name,
    c.kota,
    c.provinsi,
    c.rating AS rating_cabang, -- Rating dari kantor cabang

    -- Informasi pelanggan
    t.customer_name,

    -- Informasi produk
    p.product_id,
    p.product_name,

    -- Harga dan diskon
    t.price AS actual_price,
    t.discount_percentage,

    -- Perhitungan nett_sales: harga setelah diskon
    (t.price - (t.price * t.discount_percentage / 100)) AS nett_sales,

    -- Persentase margin keuntungan berdasarkan harga (semakin mahal, margin makin besar)
    CASE
      WHEN t.price <= 50000 THEN 0.10
      WHEN t.price > 50000 AND t.price <= 100000 THEN 0.15
      WHEN t.price > 100000 AND t.price <= 300000 THEN 0.20
      WHEN t.price > 300000 AND t.price <= 500000 THEN 0.25
      ELSE 0.30
    END AS persentase_gross_laba,

    -- Rating dari sisi transaksi (bisa beda dari rating cabang)
    t.rating AS rating_transaksi

  FROM `rakamin-kf-analytics-459814.kimia_farma.kf_final_transaction` t
  JOIN `rakamin-kf-analytics-459814.kimia_farma.kf_kantor_cabang` c
    ON t.branch_id = c.branch_id
  JOIN `rakamin-kf-analytics-459814.kimia_farma.kf_product` p
    ON t.product_id = p.product_id
)
```

```
-- Output akhir dari query
SELECT *,
  ROUND(nett_sales * persentase_gross_laba, 2) AS nett_profit
FROM transaksi_dengan_margin;
```

# 4. Dashboard Performance Analytics



**Link Dashboard : Kimia Farma Performance Dashboard**

## 5. Business Question And Visualization

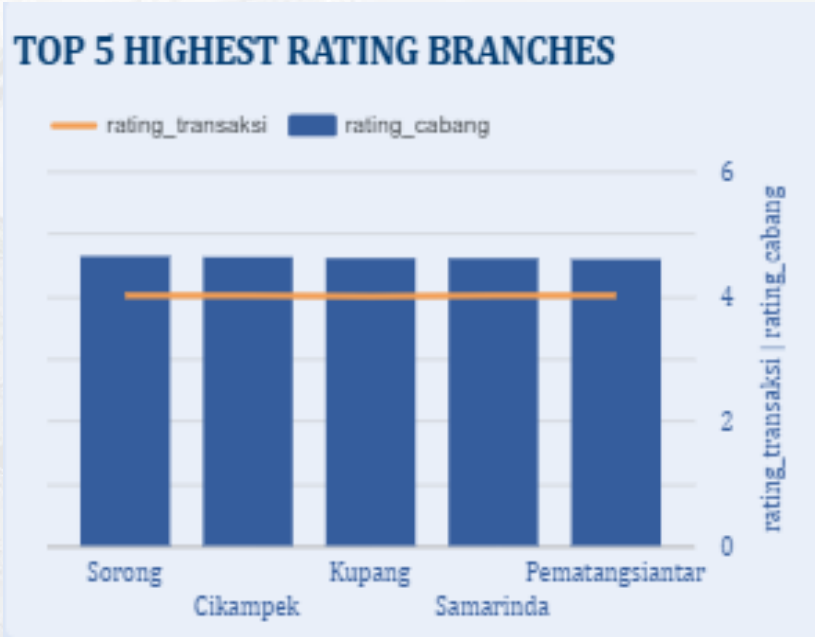
Income per Year



### 1. How has Kimia Farma's revenue trended from 2020 to 2023?

The revenue line chart shows fluctuation over the four-year period. Revenue started at a relatively high point in 2020 (24.6M), dropped to its lowest point in 2021 (24.55M), then peaked in 2022 (24.72M) before declining again in 2023 (24.5M). This indicates a volatile performance pattern with 2022 being the strongest year.

## 5. Business Question And Visualization



### 2. Which branches have the highest ratings?

The top 5 branches (Sorong, Cikampek, Kupang, Pematangsiantar, and Samarinda) all have very similar branch ratings of approximately 4, with transaction ratings hovering around 4.5 - 4.6. This consistency suggests standardized quality across top-performing branches.



## 5. Business Question And Visualization

### TOTAL PROFIT OF THE PROVINCE

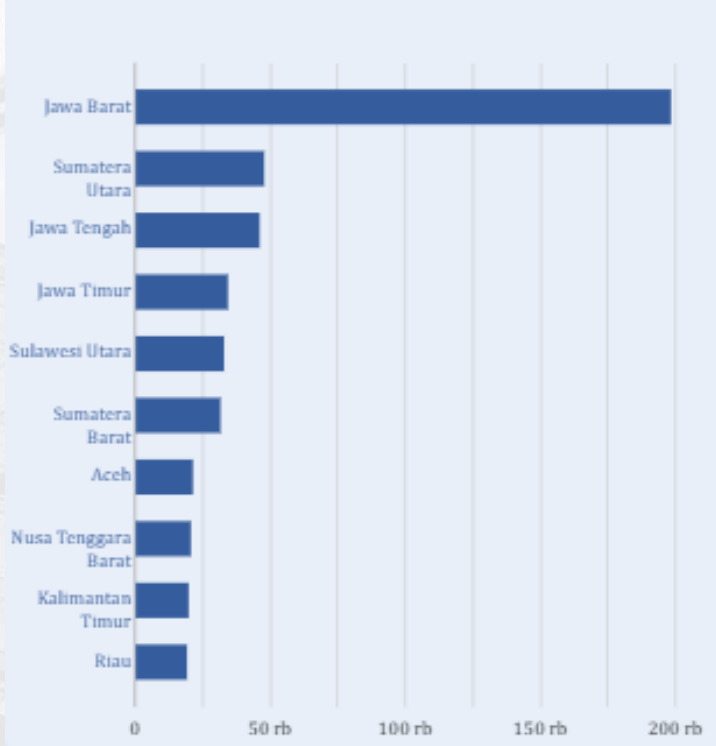


### 3. How has Kimia Farma's revenue trended from 2020 to 2023?

The revenue line chart shows fluctuation over the four-year period. Revenue started at a relatively high point in 2020 (24.6M), dropped to its lowest point in 2021 (24.55M), then peaked in 2022 (24.72M) before declining again in 2023 (24.5M). This indicates a volatile performance pattern with 2022 being the strongest year.

## 5. Business Question And Visualization

TOP 10 TOTAL PROVINCE TRANSACTIONS

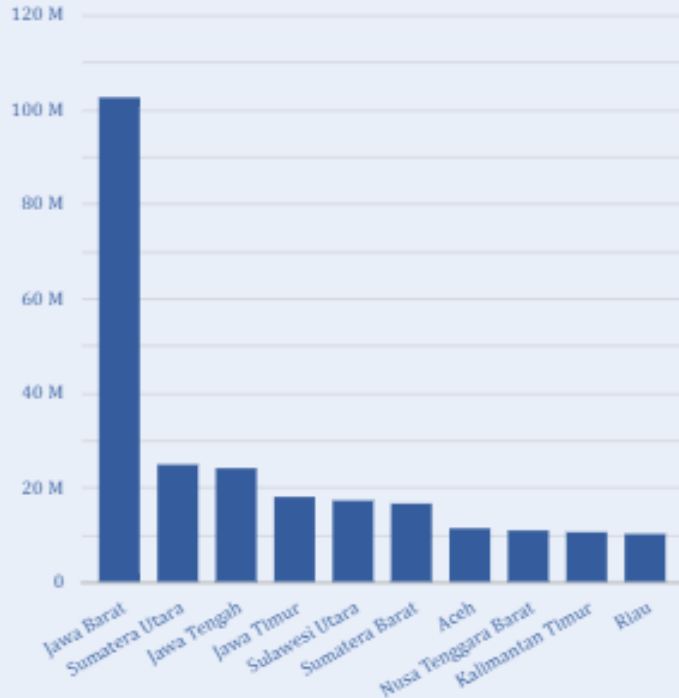


### 4. Which provinces contribute most to total transactions?

Jawa Barat is dramatically outperforming all other provinces with approximately **198rb transactions**, more than **three times higher** than the next best performing province (**Sumatra Utara at ~48rb**). The company appears heavily dependent on Jawa Barat for its transaction volume.

## 5. Business Question And Visualization

TOP 10 PROVINCE NETT SALES

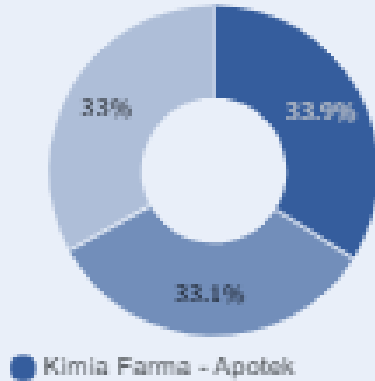


### 5. How is net sales distributed across provinces?

Similar to transaction volume, Jawa Barat leads significantly in net sales (100M+), followed by Sumatera Utara and Jawa Tengah (both around 24M). There's a substantial drop-off after the top three provinces, showing a concentrated sales performance in a few key regions.

## 5. Business Question And Visualization

### PROFIT PERCENTAGE PER BRANCH



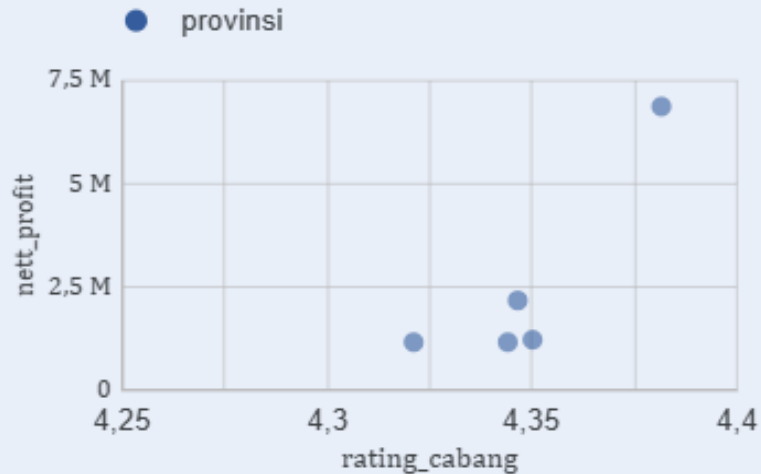
### 6. How has Kimia Farma's revenue trended from 2020 to 2023?

Insight: The revenue line chart shows fluctuation over the four-year period. Revenue started at a relatively high point in 2020 (24.6M), dropped to its lowest point in 2021 (24.55M), then peaked in 2022 (24.72M) before declining again in 2023 (24.5M). This indicates a volatile performance pattern with 2022 being the strongest year.



## 5. Business Question And Visualization

BRANCH RATING - PROFIT RELATIONS



### 7. How is profit distributed among branch types?

The pie chart shows a nearly even distribution of profit among branch types, with the “Kimia Farma - Pharmacy” segment accounting for about 33.9% of profit, “Kimia Farma Klinik - Pharmacy” about 33% and “Kimia Farma Klinik - Pharmacy - laboratory” 33.1%. This balanced distribution indicates similar profitability among the various branch categories.

## 6. Recommendations

To address these issues, we recommend a three-pronged transformation strategy: 1) Implement geographic diversification by developing Sumatra Utara and Jawa Tengah as secondary anchors while creating targeted expansion plans for eastern Indonesia; 2) Launch a Branch Excellence Program that standardizes best practices from top-rated branches (Sorong, Cikampeg, Kupang) and establishes a structured improvement system for locations with ratings below 4.30; and 3) Develop a data-driven performance management framework with quarterly business reviews, branch-specific improvement plans, and predictive analytics to anticipate market trends.

This integrated approach will stabilize revenue fluctuations, reduce geographic concentration risk, transform branch ratings into consistent profit drivers, and ultimately create a more resilient business model that can achieve sustainable growth across all regions of Indonesia.

# Thank You

