Rakamin Academy X kimia farma

KIMIA FARMA
PERFORMANCE DASHBOARD

Kimia Farma - Big Data Analytics

Presented by
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CHARISTA APRILIA PUTRI

DATA ANALYST

A Mathematics graduate from Universitas Jenderal Soedirman (UNSOED) with a GPA of 3.64, currently aiming to transition into a dynamic role as a Data Analyst. Possesses a strong foundation in problem-solving, attention to detail, presentation, communication, and analytical skills developed in a fast-paced work environment. Highly enthusiastic about leveraging an analytical mindset and data interpretation skills to grow in the field of data analysis.

Certificate

About Company

1817

Established by the Dutch East Indies government as the first pharmaceutical company under the name NV Chemicalien Handle Rathkamp & Co.

1958

Government of the Republic of Indonesia merged several pharmaceutical companies into PNF(Perusahaan Negara Farmasi) Bhineka Kimia Farma

1971

PNF was changed to a limited liability company (Perseroan Terbatas) and the company was renamed

VISION

Becoming the main choice of integrated Healthcare company and generates sustainable value

MISION

- Conducting business activities in the chemical and pharmaceutical industry, trading and distribution network, retail pharmacy, healthcare service, and asset optimization.
- Managing the company with Good corporate Governance and Operational Excellence, supported by professional Human Resources (HR)

Project Description

Kimia Farma is a major player in the healthcare industry, operating in the fields of pharmaceutical manufacturing, distribution, and retail. To maintain its competitive edge, data-driven decision making is essential in analyzing sales performance, transaction trends, and branch profits.

Available Data

The dataset contains key information on :

- Transaction → Sales, Net Profit, and Branch Level Performance
- Branch and Regional Data → Store locations and province based insight
- Customer Rating → Store service quality
- Product → quantity of goods

Problem Statement

The main objectives of this analysis :

- Analyze Annual Sales Trends
- Identify top performing provinces based on total transaction and net profit
- Determine the top 5 highest rated branches
- Visualize profit distributin acros provinces
- Extract actionable insight to optimize business strategies

GitHub

Project explanation

IMPORTING DATASET TO BIGQUERY

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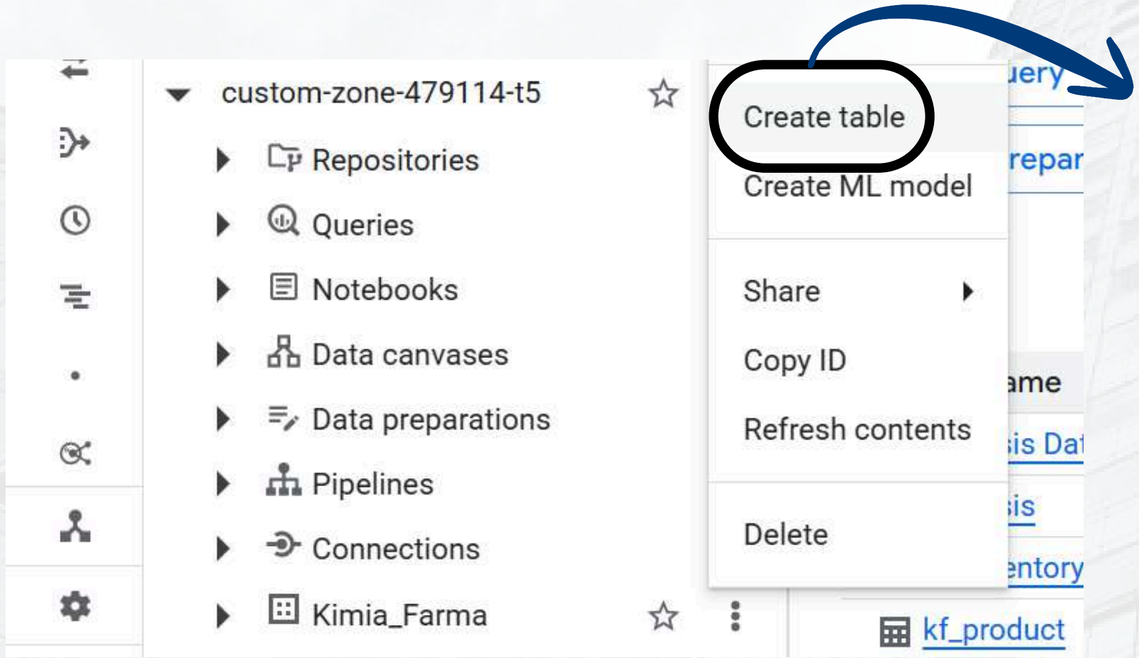
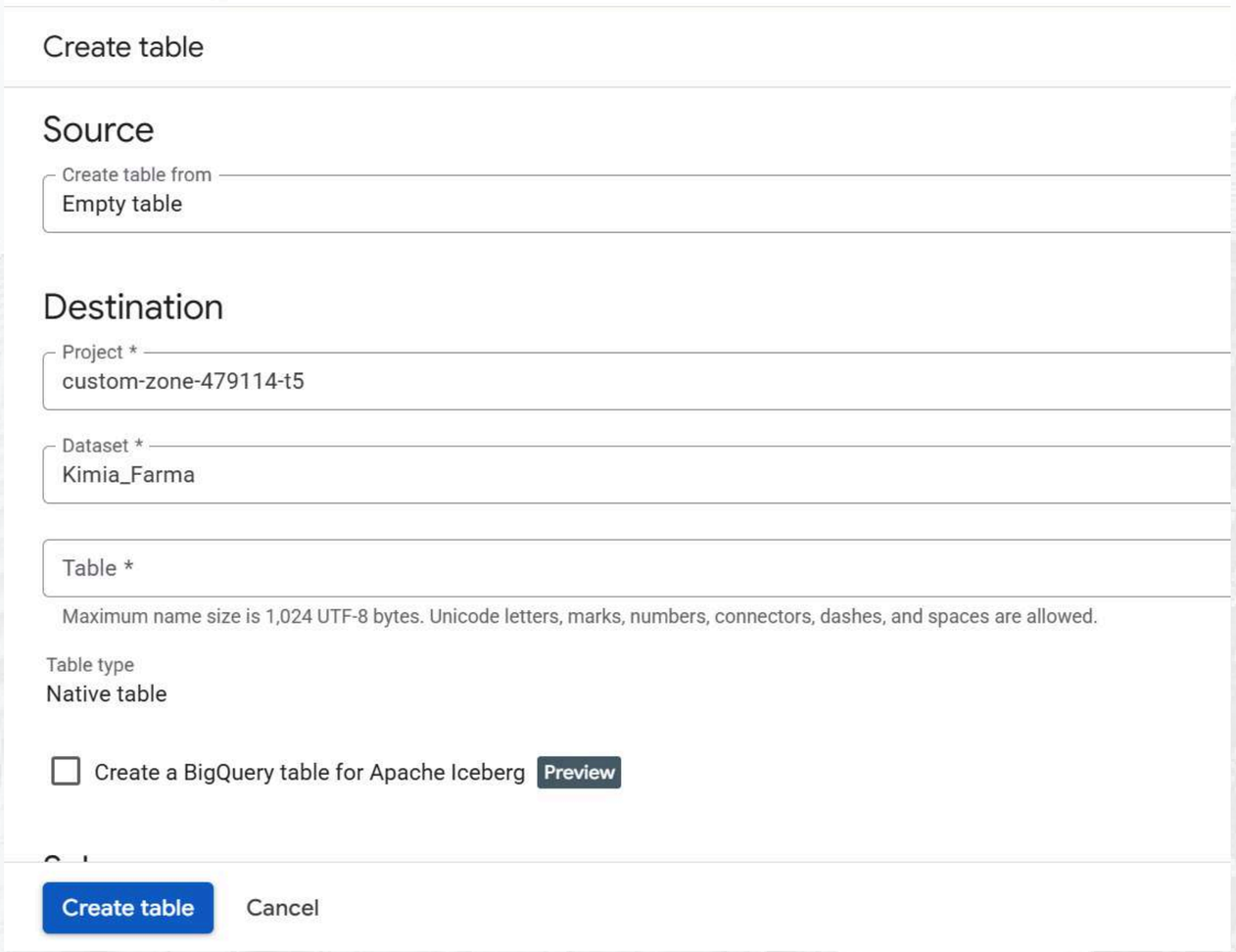
1. Click “ Create Table”
2. Select the Dataset File
3. Give The Dataset a Name
4. Turn on the auto Detect Schema
5. Click Create Table





DATA PREPARATION

1.Check each data column

Analysis Data | Run | Open in | More

```sql
SELECT * FROM `Kimia_Farma.kf_final_transaction`LIMIT 10;
SELECT * FROM `Kimia_Farma.kf_product`LIMIT 10;
SELECT * FROM `Kimia_Farma.kf_inventory`LIMIT 10;
SELECT * FROM `Kimia_Farma.kf_kantor_cabang`;
```

2.Check and clean the data

```sql
SELECT * FROM `Kimia_Farma.kf_final_transaction`
WHERE product_id IS NULL
    OR branch_id IS NULL
    OR date IS NULL
    OR price IS NULL;

SELECT transaction_id, COUNT(*) AS jumlah
FROM `Kimia_Farma.kf_final_transaction`
GROUP BY transaction_id
HAVING COUNT(*)>1;

SELECT date, SAFE_CAST(date AS DATE) AS cek_tanggal
FROM Kimia_Farma.kf_final_transaction
LIMIT 20;

SELECT COUNT(DISTINCT product_id)
FROM Kimia_Farma.kf_product;

SELECT COUNT(DISTINCT product_id)
FROM Kimia_Farma.kf_final_transaction;
```

Creating Analysis Table

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1

```sql
CREATE OR REPLACE TABLE Kimia_Farma.Analysis AS (
SELECT
t.transaction_id,
t.date,
t.customer_name,
t.branch_id,
kc.branch_name,
kc.kota,
kc.provinsi,
kc.rating AS rating_cabang,
t.product_id,
p.product_name,
p.product_category,
i.opname_stock,
t.price,
t.discount_percentage,
(t.price*t.discount_percentage) AS discount_amount,
(t.price-(t.price*t.discount_percentage)) AS nett_sales,
```

2

```sql
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
    WHEN t.price > 500000 THEN 0.30
END AS persentage_gross_laba,
```

3

```sql
((t.price-(t.price*t.discount_percentage))*
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
    WHEN t.price > 500000 THEN 0.30
END
```

The purpose of this query is to combine all Kimia Farma transaction dataset into a single integrated analysis table.
This query retrieves data from several key table which is kf_final_transaction, kf_product, and kf_kantor_cabang.

In this query several computed columns are add to support business analysis

- discount amount → the total discount applied
- nett_sales → final selling price
- percentage_gross_laba → profit percentage based on the price range
- nett_profit → total profit

Creating Analysis Table

```
129  FROM `Kimia_Farma.kf_final_transaction` t
130  LEFT JOIN `Kimia_Farma.kf_product` p
131  ON t.product_id=p.product_id
132  LEFT JOIN Kimia_Farma.kf_kantor_cabang kc
133  ON t.branch_id=kc.branch_id
134  LEFT JOIN `Kimia_Farma.kf_inventory` i
135  ON t.product_id=i.product_id
```

The tables are joined using the primary keys to ensure that each record is matched correctly

- Product_id → is used to join transaction data with product detail
- Product_id → also used to join transaction data with inventory data
- branch_id → is used to join transaction data with brach detail

This makes each transaction row complete with product, branch, pricing, and rating information

Analysis Table

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Query results

Save results | Open in

Job information | Results | Visualization | JSON | Execution details | Execution graph

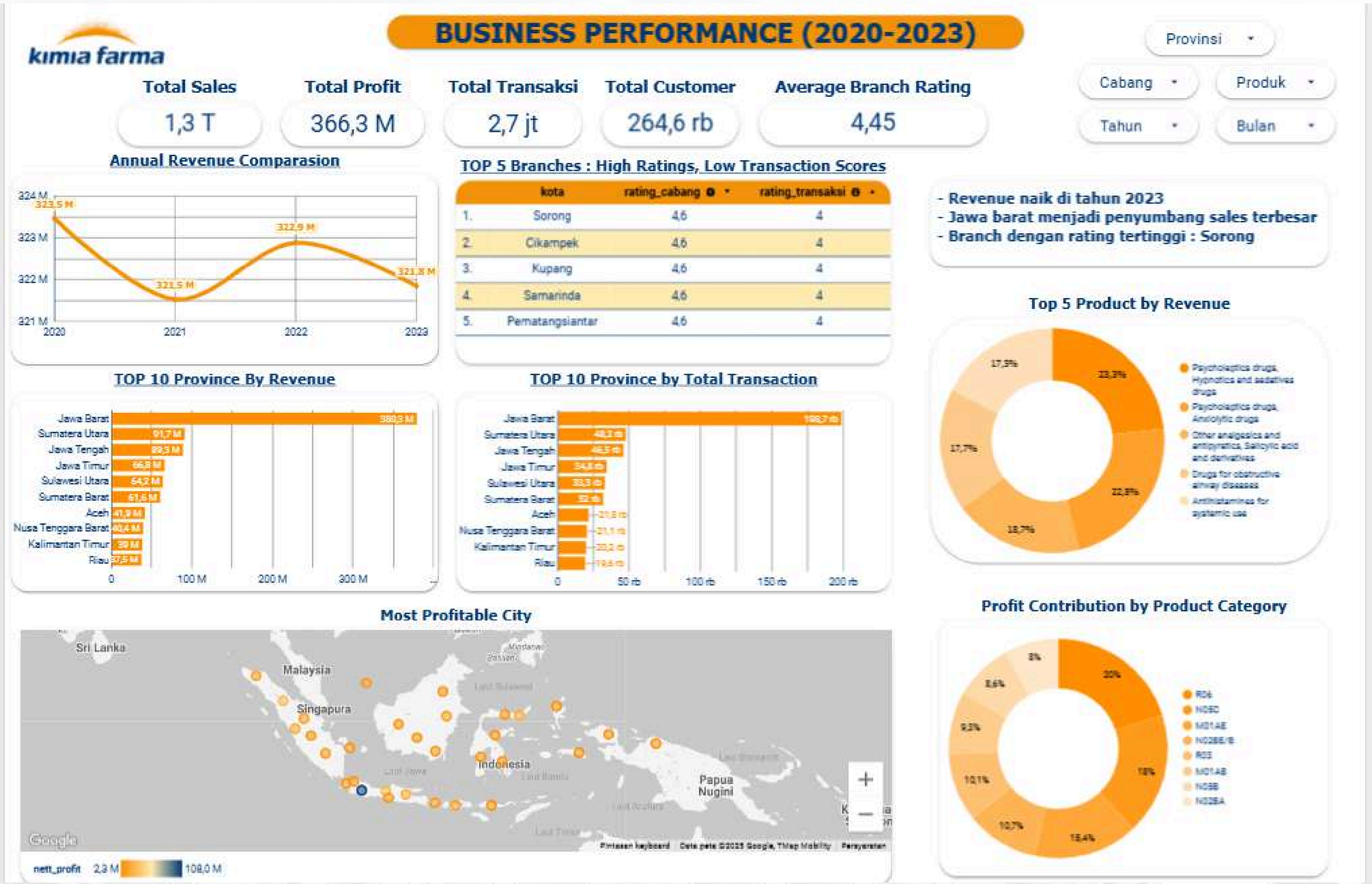
	transaction_id	date	customer_name	branch_id	branch_name	kota	provinsi
1	TRX3182086	2023-11-05	Randy Hart	24277	Kimia Farma - Apotek	Lhokseumawe	Aceh
2	TRX4995654	2021-06-13	Jason Wright	49606	Kimia Farma - Apotek	Palu	Sulawesi Ten
3	TRX6989380	2023-06-17	Jimmy Phelps	26358	Kimia Farma - Klinik-Apotek-Lab...	Dumai	Riau
4	TRX2594487	2020-05-10	Jose Newman	17567	Kimia Farma - Apotek	Kendari	Sulawesi Ten
5	TRX6410039	2023-01-10	Pamela Ball	48388	Kimia Farma - Apotek	Palangkaraya	Kalimantan T
6	TRX1092754	2023-12-14	Amber Liu	25432	Kimia Farma - Apotek	Cirebon	Jawa Barat
7	TRX8850081	2022-04-09	Carlos Daniel	55171	Kimia Farma - Apotek	Ambon	Maluku
8	TRX5315190	2023-05-26	Erin Nguyen	70971	Kimia Farma - Apotek	Tomohon	Sulawesi Uta
9	TRX2473462	2021-09-25	Dominique Gross	27518	Kimia Farma - Apotek	Semarang	Jawa Tengah

EDA QUERY

```sql
SELECT
    COUNT(*) AS total_transacion,
    MIN(date) AS earliest_date,
    MAX(date) AS latest_date,
    AVG(price) AS average_price,
    AVG(discount_percentage) AS average_discount_percentage,
    SUM(nett_sales) AS total_net_sales,
    SUM(nett_profit) AS total_net_profit,
    AVG(rating_transaksi) AS average_transaction_rating,
    AVG(rating_cabang) AS average_branch_rating,
    branch_name,
    COUNT(DISTINCT customer_name) AS total_customers,
FROM `Kimia_Farma.Analysis`
GROUP BY branch_name
ORDER BY total_net_sales DESC;
```

Before building the dashboard we also performed EDA to explore patterns and key metrics from the data. Here is the EDA query

Dashboard Performance Analytics



DASHBOARD INSIGHT

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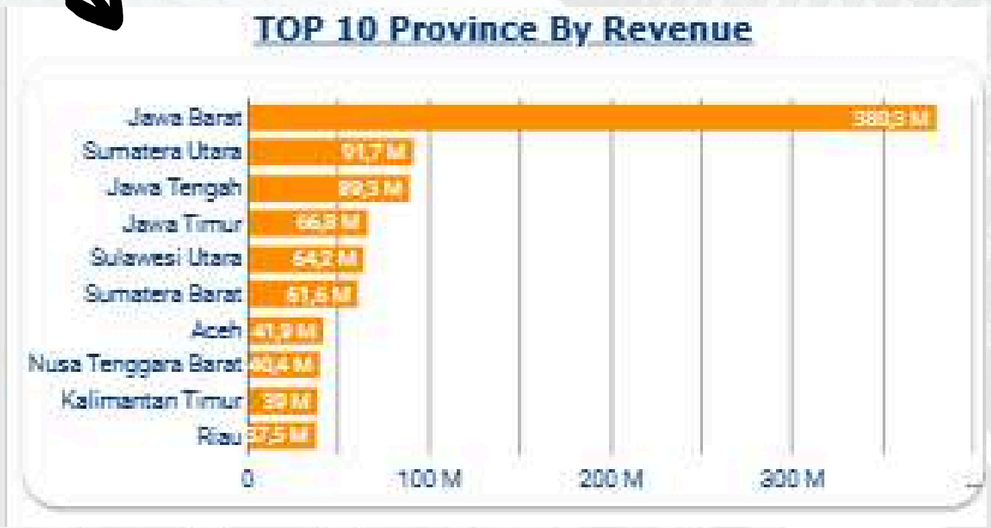
- These KPIs represent the high level business performance

Total Sales	Total Profit	Total Transaksi
1,3 T	366,3 M	2,7 jt

Total Customer	Average Branch Rating
264,6 rb	4,45

- The company's profit relies heavily on Jawa Barat

- The sales trend is slightly going down in 2023



Business
Implications and Opportunities

- High performing regions such as West Java Should be prioritized
- Branches with good rating but low transaction have growth potensial
- product categories with high contribution can be optimized
- Low contribution products may require pricing, inventory, or marketing review

Thank You

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