PERFORMANCE MARKETING ANALYSIS KIMIA FARMA 2020 - 2023

PRESENTED BY: ALDI VIBRIANI

ALDI VIBRIANI

Data Analyst Enthusiast

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LINKEDIN PROFILE

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ABOUT ME

Data analyst professional specializing in leveraging data to drive strategic decisions. I have successfully completed projects that improved business outcomes by optimizing data preprocessing using Python, visualizing findings, and turning them into actionable insights. My educational background includes a data science bootcamp from Rakamin Academy, coupled with a passion for uncovering patterns and trends, enabling me to apply innovative solutions to solve complex business challenges.

SOFT & HARD SKILLS

- Analythical Thinking and Problem-solving
- Attention to detail and Communication
- Programming Language
- Data Cleaning and Preprocessing
- Data Visualization and Machine Learning
- Statistical Analytics and Business Acumen

Certification and Achievement

- **Certificate Specialization Data Science: Machine Learning (Link Certificate)**
  - Completed a Data Science Bootcamp at Rakamin Academy, specialized in Machine Learning, covering key areas such as Data Science fundamentals, Relational Database Management Systems, Python programming, data preprocessing, data visualization and dashboarding, machine learning, and business acumen.

- **The Most Outstanding Student Bootcamp Achievement (Link Certificate)**
  - Awarded as the Most Outstanding Student in the Data Science Bootcamp at Rakamin Academy, achieving a final score of 90.94 out of 100. My final project, 'Analyzing Default Rate in Home Credit,' involved preprocessing a large dataset and implementing a logistic regression model with an ROC AUC score of 0.76. I recommended that Home Credit assign more weight to applicants' income and loan amounts in their credit evaluations.

- **The Data Analyst Using Python Certificate (Link Certificate)**
  - Completed 'The Data Analyst Using Python' course on Udemy, mastering key skills in data analytics. The course covered Python programming, data collection, data cleaning, data manipulation, and data visualization. Developed strong analytical skills using tools like Pandas and NumPy, and gained expertise in statistical data analysis and data storytelling to solve complex problems effectively

- **Microsoft Excel Course (Beginner - Advanced) (Link Certificate)**
  - Completed the 'Microsoft Excel: Beginner to Advanced' course on MySkills, acquiring comprehensive skills in Excel. The course covered essential functions, data analysis, advanced formulas, pivot tables, and data visualization techniques. Developed proficiency in using Excel for complex data management and reporting tasks.

KIMIA FARMA PROFILE

Overview

Kimia Farma is a leading pharmaceutical company in Indonesia, renowned for its commitment to providing high-quality healthcare products and services. Established in 1817, it is one of the oldest pharmaceutical companies in Southeast Asia, with a rich history of innovation and service in the healthcare sector.

Vision

To become the leading and integrated healthcare company of choice, creating sustainable value.

Mission

conduct business in the chemical and pharmaceutical industries, optimize asset utilization, manage the company with Good Corporate Governance and operational excellence supported by professional Human Resources, and provide added value and benefits for all stakeholders.

PROJECT BACKGROUND

Kimia Farma faces various challenges that require a deep understanding of its data to effectively address business needs. To evaluate **business performance** from 2020 to 2023, Kimia Farma utilizes critical datasets, including **transaction**, **inventory**, **branch office**, and **product data**. These datasets are imported into BigQuery to enable comprehensive **analysis** and **insights**, supporting **strategic decision-making** and **operational improvements.**

DATASETS

- kf_final_transaction.csv
- kf_inventory.csv
- kf_kantor_cabang.csv
- kf_products.csv

Datasets explanation:

- **kf_final_transaction:**
  - This dataset contains records of transactions
- **kf_inventory:**
  - This dataset provides details about the inventory
- **kf_kantor_cabang:**
  - This dataset details the branches
- **kf_products:**
  - This dataset contains information about products

Problem Statement

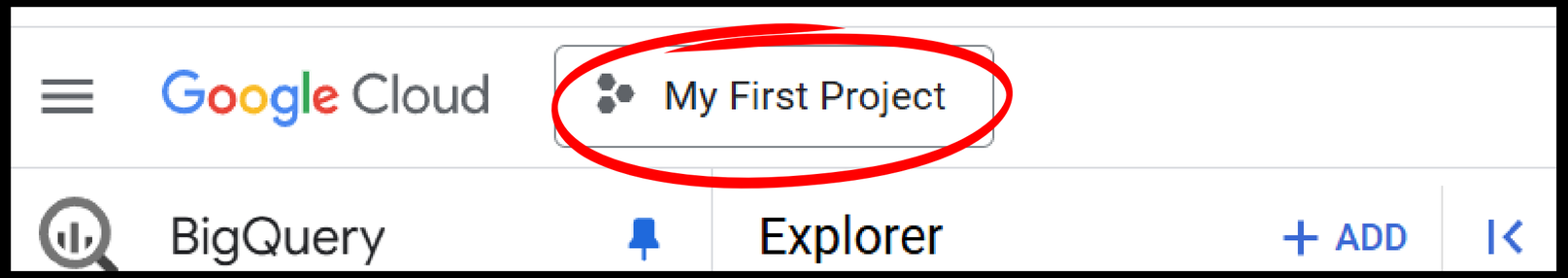
1. **Sales Performance (2020 - 2023):** How has sales performance evolved over these years, and what trends or patterns can be identified?
2. **Branch Performance:** Which branch achieves the highest sales and customer ratings, and what factors contribute to this success?
3. **Product Sales and Pricing:** How do product sales correlate with pricing strategies, and what insights can be gained to optimize the product portfolio?

STEP 1: IMPORTING DATASETS INTO BIGQUERY

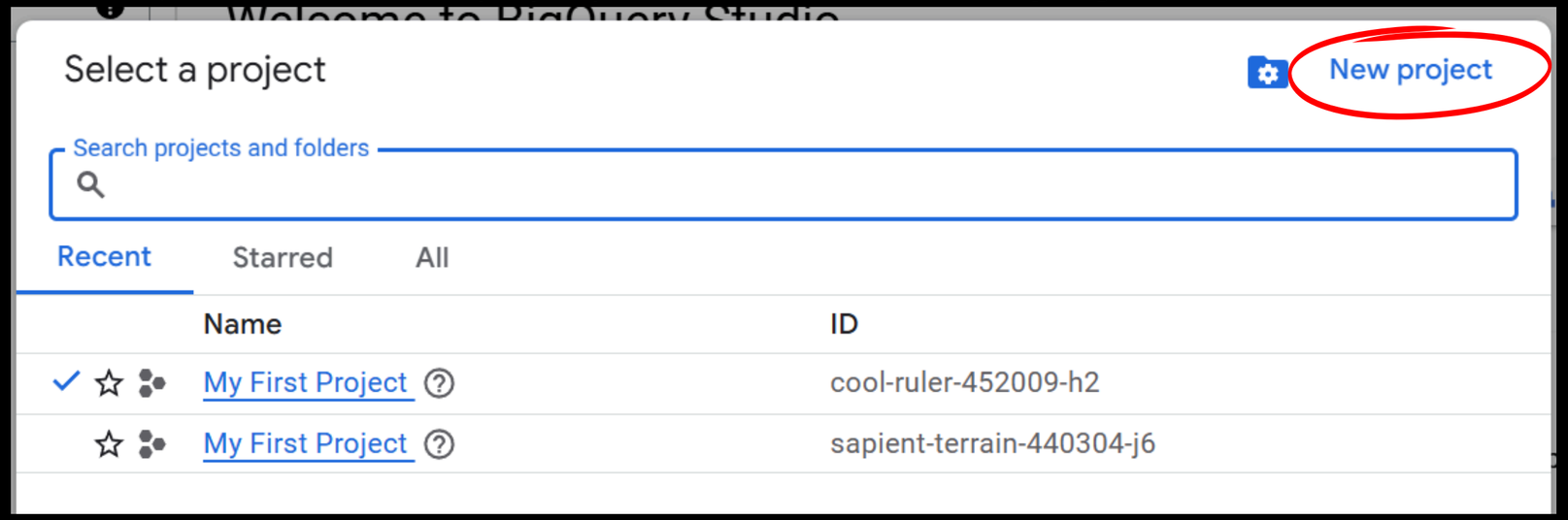
Explaining how the datasets imported to big query to create tables for analytics

Step 1: Importing Datasets Into BigQuery

1. first, click **“My First Project”** on the top left page

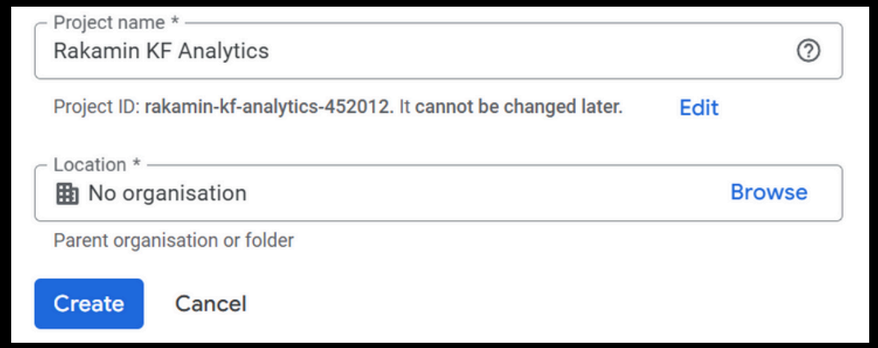


2. Then, there will be a pop up box and click “**New project**”

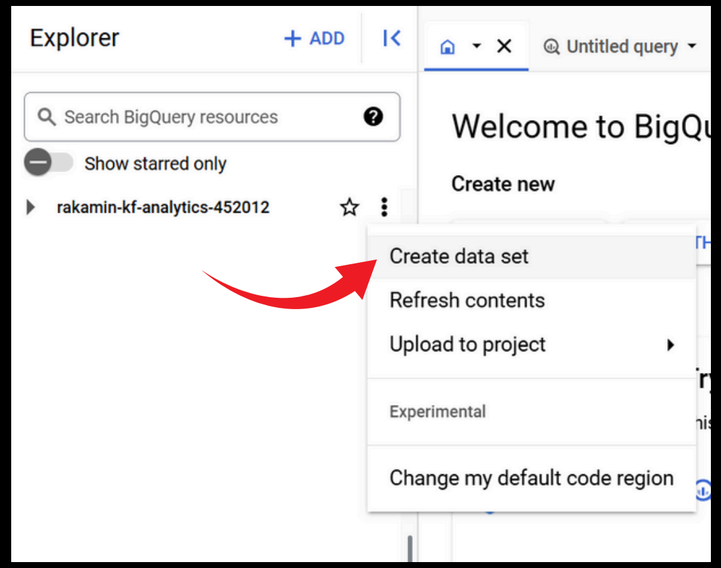


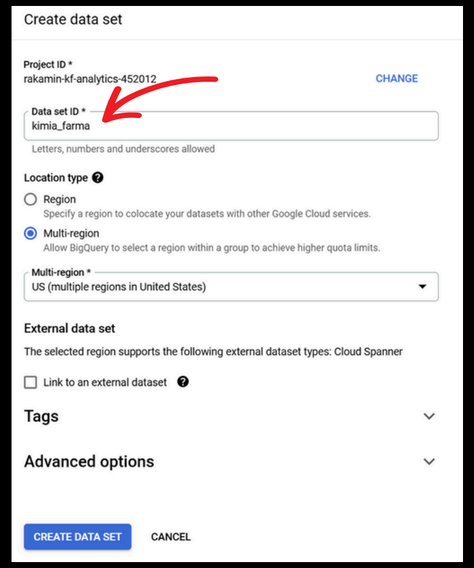
Step 1: Importing Datasets Into BigQuery

3. Next name the project as “**Rakamin KF Analytics**”, Location can be ignored

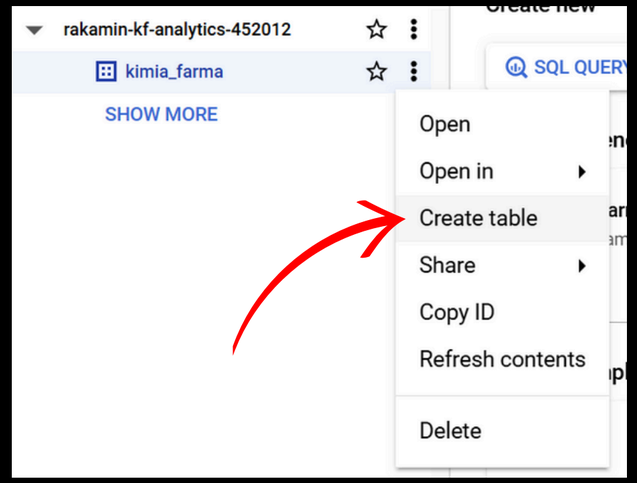


4. After that, go to explorer tab and click the three dots and click “**Create data set**” with name **kimia_farma**





Step 1: Importing Datasets Into BigQuery



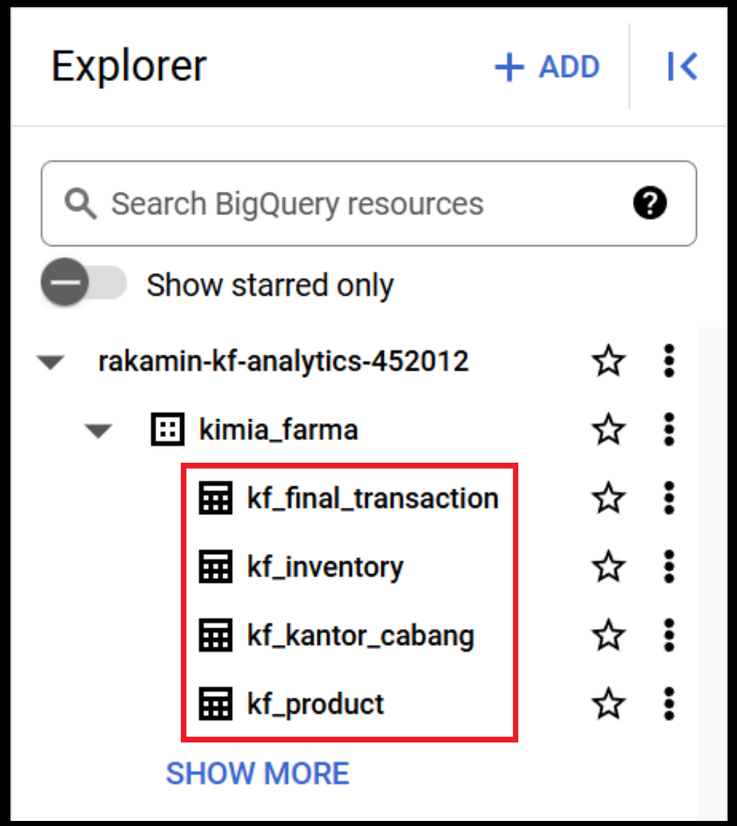
5. To add the .csv file data, click the three dots of kimia_farma and click “**Create Table**”

6. Then, click the “**Create table from**” and select “**upload**”.

7. After that, the “**Select file ***” will be appeared. Click “**BROWSE**” and choose your .csv file.

8. Name the table same with your .csv file

Step 1: Importing Datasets Into BigQuery



9. Repeat the step 6 - 8 for the rest of the tables (.csv file). There will be four table just like the left image

STEP 2: CREATING TABLE ANALYSIS

Combine all datasets into one table for analysis and dashboarding purposes

Step 2: Creating Table Analysis

```sql
CREATE TABLE kimia_farma.analytics_table AS
SELECT
    t.transaction_id,
    t.date,
    t.branch_id,
    c.branch_name,
    c.kota,
    c.provinsi,
    c.rating AS rating_cabang,
    t.customer_name,
    t.product_id,
    p.product_name,
    p.price AS actual_price, # the actual price in "product" table
    t.discount_percentage,
    CASE
        WHEN p.price <= 50000 THEN 0.1
        WHEN p.price > 50000 AND p.price <= 100000 THEN 0.15
        WHEN p.price > 100000 AND p.price <= 300000 THEN 0.2
        WHEN p.price > 300000 AND p.price <= 500000 THEN 0.25
        ELSE 0.3
    END AS persentase_gross_laba,
    (p.price * (1 - t.discount_percentage)) AS nett_sales,
    (p.price * (1 - t.discount_percentage) *
        CASE
            WHEN p.price <= 50000 THEN 0.1
            WHEN p.price > 50000 AND p.price <= 100000 THEN 0.15
            WHEN p.price > 100000 AND p.price <= 300000 THEN 0.2
            WHEN p.price > 300000 AND p.price <= 500000 THEN 0.25
            ELSE 0.3
        END) AS nett_profit,
  t.rating AS rating_transaksi
FROM
  kimia_farma.kf_final_transaction as t
JOIN
  kimia_farma.kf_kantor_cabang as c ON t.branch_id = c.branch_id
JOIN
  kimia_farma.kf_product as p ON t.product_id = p.product_id
```

This step is creating table analysis with name “**analytics_table**”

Choosen Columns:

- kf_final_transaction: transaction_id, date, branch_id, customer_name, product_id, discount_percentage
- kf_kantor_cabang: branch_name, kota, provinsi, rating
- kf_product: product_name, price

New Columns:

- persentase_gross_laba: gross profit (in percentage) from transaction
- nett_sales: price after discount
- nett_profit: total profit (nett) of Kimia Farma

Step 2: Creating Table Analysis

Field name	Type	Mode
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
persentase_gross_laba	FLOAT	NULLABLE
nett_sales	FLOAT	NULLABLE
nett_profit	FLOAT	NULLABLE
rating_transaksi	FLOAT	NULLABLE

After joining the datasets . . .

There are **16 columns** with **672.458 rows data**

STEP 3:
BIG QUERY SYNTAX

Step 3: Big Query Syntax

Comparison of Kimia Farma's Revenue from year to year

Row	Year	Total_Revenue
1	2023	80117292611.0
2	2022	80578445844.0
3	2021	80037846824.0
4	2020	80437605040.0

```
# Comparison of Kimia Farma's Revenue from year to year

SELECT
  EXTRACT(YEAR FROM a.date) as Year,
  SUM(nett_sales) as Total_Revenue
FROM
  kimia_farma.analytics_table a
GROUP BY
  Year
ORDER BY
  Year
DESC;
```

Over the years 2020 to 2023, Kimia Farma's pharmaceutical sales revenue has shown slight fluctuations, with a peak in 2022 and a slight decline in 2023.

Step 3: Big Query Syntax

Top 10 Total Transaction by Province

Row	Total_Transaksi	provinsi
1	198723	Jawa Barat
2	48178	Sumatera Utara
3	46494	Jawa Tengah
4	34766	Jawa Timur
5	33339	Sulawesi Utara
6	32014	Sumatera Barat
7	21825	Aceh
8	21069	Nusa Tenggara Barat
9	20243	Kalimantan Timur
10	19607	Riau

```
# Top 10 Total Transaction of Branch by Province

SELECT
  COUNT(transaction_id) AS Total_Transaksi,
  provinsi
FROM
    kimia_farma.analytics_table
GROUP BY
  provinsi
ORDER BY
  Total_Transaksi
DESC
LIMIT 10;
```

West Java leads significantly in the **number of transactions**, indicating a strong market presence and demand in the region.

Step 3: Big Query Syntax

Top 10 Total Sales by Province

Row	Total_Sales	provinsi
1	94869594875.0	Jawa Barat
2	22952159897.0	Sumatera Utara
3	22248101144.0	Jawa Tengah
4	16627080704.0	Jawa Timur
5	15902759535.0	Sulawesi Utara
6	15314406695.0	Sumatera Barat
7	10467971437.0	Aceh
8	10036738806.0	Nusa Tenggara Barat
9	9714536616.0	Kalimantan Timur
10	9354616403.0	Riau

```
# Top 10 Nett sales cabang provinsi

SELECT
  SUM(nett_sales) AS Total_Sales,
  provinsi
FROM
  kimia_farma.analytics_table
GROUP BY
  provinsi
ORDER BY
  Total_Sales
DESC
LIMIT 10;
```

West Java is the dominant market, generating significantly higher sales than other regions.

Step 3: Big Query Syntax

Top 5 Branch with Highest Branch Rating, but Lowest Transaction Rating Based on Province

Row	branch_name	provinsi	Rating_Cabang	Rating_Transaksi
1	Kimia Farma - Klinik & Apotek	Jambi	4.771483375959...	4.002941176470...
2	Kimia Farma - Apotek	Papua Barat	4.725298804780...	3.993758300132...
3	Kimia Farma - Klinik & Apotek	Bangka Belitung	4.683103448275...	3.997112068965...
4	Kimia Farma - Klinik-Apotek-La...	Nusa Tenggara Timur	4.671632329635...	3.988325409403...
5	Kimia Farma - Klinik-Apotek-La...	Papua	4.644199178644...	3.997895277207...

```
# Top 5 Branch with highest branch rating but lowest transaction rating

SELECT
  branch_name,
  provinsi,
  AVG(rating_cabang) AS Rating_Cabang,
  AVG(rating_transaksi) AS Rating_Transaksi
FROM
  kimia_farma.analytics_table
GROUP BY
  branch_name,
  provinsi
ORDER BY
  Rating_Cabang DESC,
  Rating_Transaksi ASC
LIMIT 5;
```

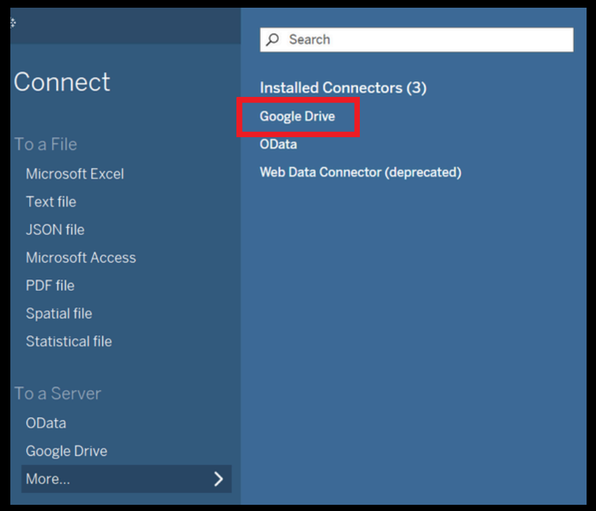
Overall customers with **high satisfaction** with the **branch environment** and services but has a **slightly dissatisfaction** with their **transaction experience** mostly from Jambi, Papua Barat, Bangka Belitung, Nusa Tenggara Timur, and Papua

STEP 4: DASHBOARDING

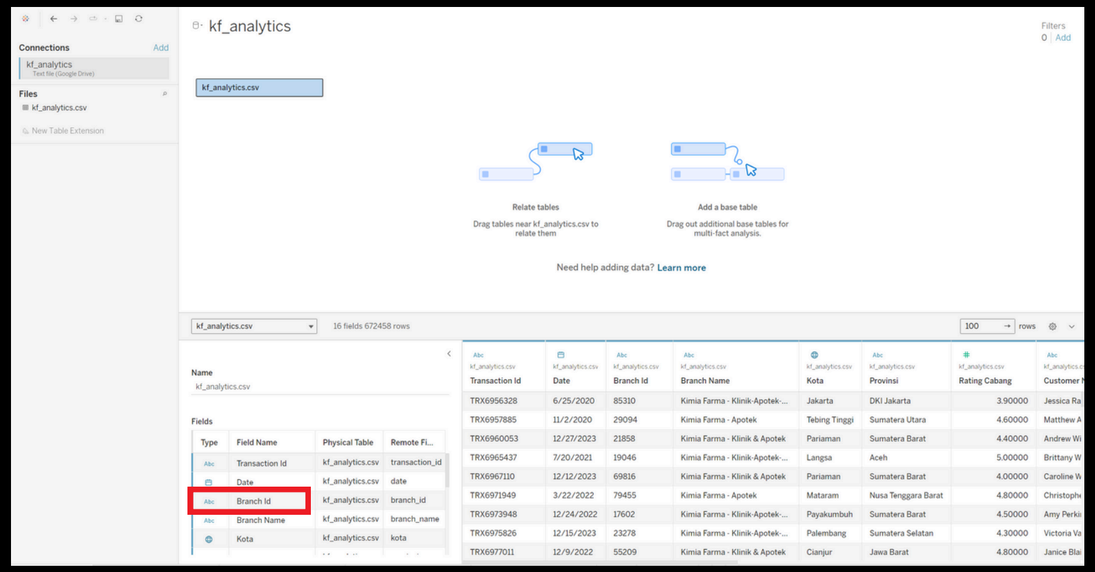
Create dashboard and business recommendation

CONNECTING DATA TO TABLEAU

1. Tableau's free version restricts access to BigQuery connections, so I'm linking the data to Google Drive instead.



2. After connecting the data, there is an incorrect data type, specifically for branch ID. Although its values are numeric, branch ID is categorical data and therefore needs to be converted into a string format.



Tools Used

Canva

For creating the mockup dashboard

Tableau

For building the dashboard

PERFORMANCE MARKETING DASHBOARD

LOGO

SUMMARY

TOP 10 NETT SALES BY KOTA

TOP 10 NETT SALES BY PROVINCE

TOP 10 TOTAL TRANSACTION BY KOTA

TOP 10 TOTAL TRANSACTION BY PROVINCE

TOP 5 HIGH VALUE CUSTOMER

REVENUE (YEAR-TO-YEAR)

GEO MAP (TOTAL SALES)

Link dashboard on Tableau Public

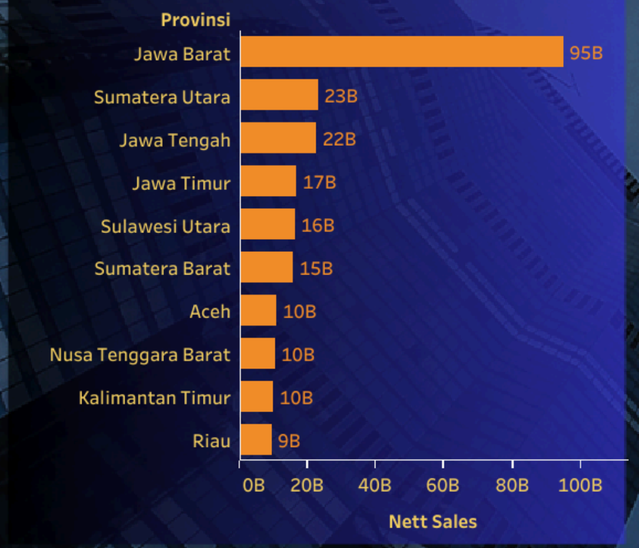
PERFORMANCE MARKETING DASHBOARD

kimia farma

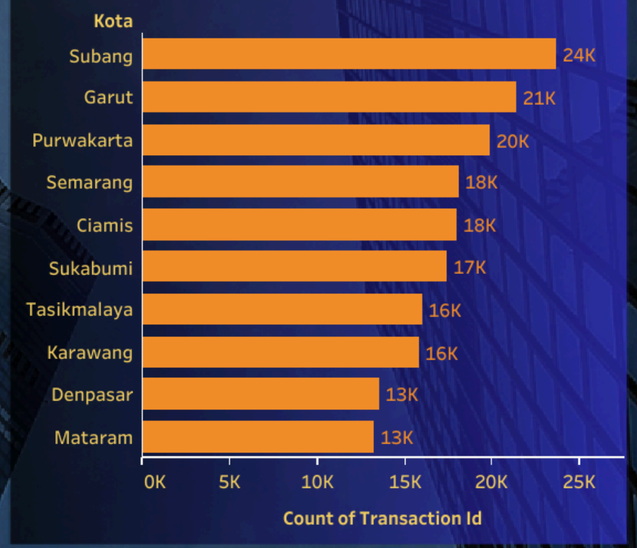
Nett Profit	Nett Sales	Avg. Rating Cabang	Avg. Rating Transaksi
91,214,988,060	321,171,190,319	4	4

Top 10 Total Sales by Kota

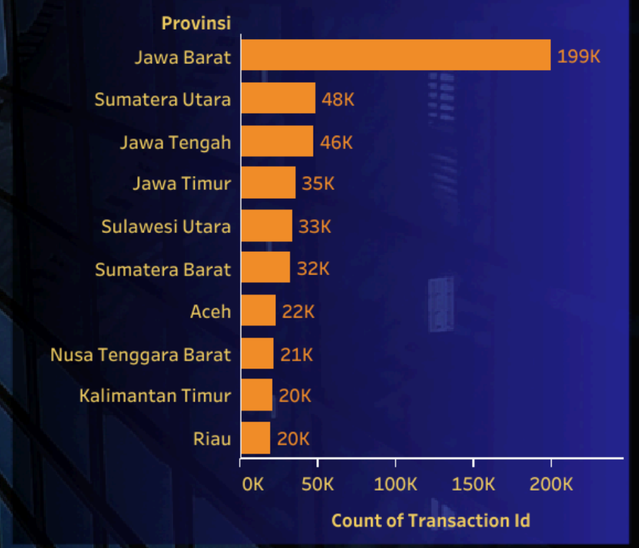
Top 10 Total Sales by Province



Top 10 Total Transaction by Kota



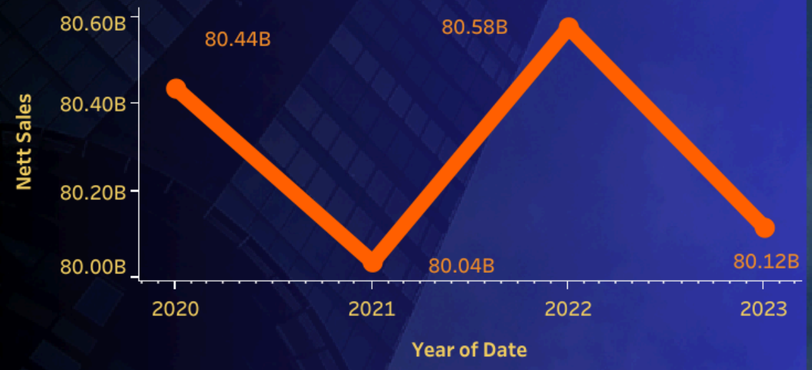
Top 10 Total Transaction by Province



Top 5 High Value Customers

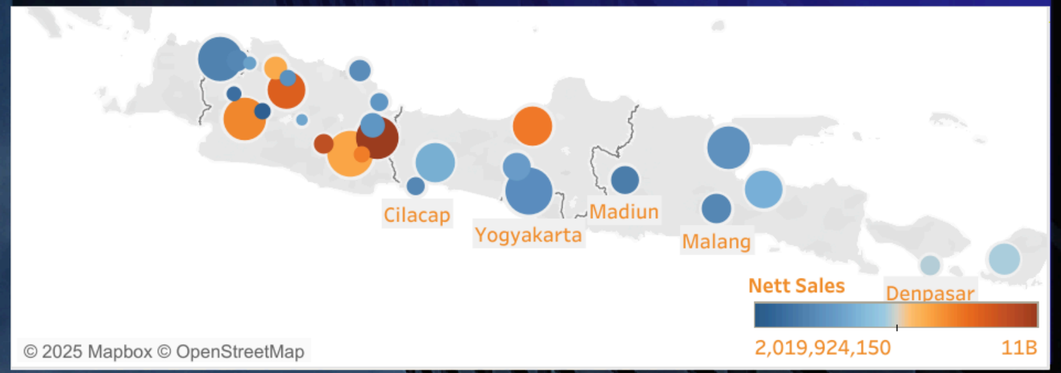
Customer Name	Nett Profit	Nett Sales
Michael Smith	42.81M	150.45M
David Smith	32.06M	111.73M
Michael Johnson	29.10M	101.93M
Jennifer Smith	28.20M	97.72M
John Smith	27.87M	97.91M

Revenue From Year to Year



Geo Map (Total Sales)

Highlight Kota
No items highlighted



Key Insights

1. Nett Profit and Sales:

- **Nett Profit:** 91,214,988,060
- **Nett Sales:** 321,171,190,319
- The profit margin seems healthy, indicating efficient cost management.

2. Top Sales by Region:

- **Cities:** Subang and Garut lead in sales, with 11B and 10B respectively.
- **Provinces:** Jawa Barat dominates with 95B in sales, significantly higher than other provinces.

3. Transaction Volume:

- **Cities:** Subang also leads in transaction count, followed by Garut.
- **Provinces:** Jawa Barat again leads with 199K transactions.

4. High-Value Customers:

- **Michael Smith** is the top customer, **contributing** significantly to both **profit** and **sales**.

5. Yearly Revenue Trend:

- Revenue shows **fluctuations**, with a **peak** in 2021 and a slight decline in 2023.

Business Insight

Recommendation	Insight	Actionable Insight
Focus on High-Performing Regions	Jawa Barat is the leading province in sales, indicating a strong market presence.	1. **Increase Marketing Efforts in Jawa Barat**: Develop targeted campaigns to further boost sales in this region.
Leverage Customer Data	High-value customers significantly contribute to overall profit and sales.	2. **Implement Loyalty Programs:** Create loyalty initiatives to retain high-value customers and attract new ones.
Address Revenue Fluctuations	Revenue showed fluctuations, with a peak in 2021 and a decline in 2023.	3. **Analyze Market Trends**: Conduct a thorough analysis to identify factors causing revenue decline and adjust strategies accordingly.
Optimize Underperforming Areas	Some regions have lower sales and transaction counts compared to others.	4. **Targeted Marketing Campaigns**: Implement focused marketing strategies in underperforming areas to boost sales.
Enhance Digital Marketing Strategies	Digital engagement can significantly impact sales performance.	5. **Invest in Digital Marketing Tools**: Utilize online platforms to reach a broader audience and improve engagement.

THANK YOU

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Performance Marketing Kimia Farma 2020 - 2023 (Github)

Dashboard Tableau

LINKEDIN PROFILE

GITHUB PROFILE

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