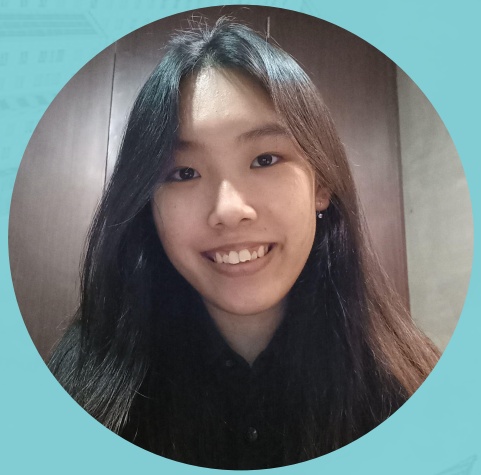
Rakamin Academy X kimia farma

Performance Analytics Kimia Farma Business Year 2020 - 2023

Kimia Farma - Big Data Analytics

Presented by
Melody Priscilla Tan

Rakamin Academy



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Melody Priscilla Tan

Data Enthusiast

A fresh graduate of Mathematics from Brawijaya University with a GPA of 3.88. I have a great enthusiasm in machine learning and data related fields. Throughout my study, I had the opportunity to be a practicum assistant and joined bootcamp class which gave me a chance to work with several software such as Python, SQL, R, and Matlab. Based on these experiences, I am able to delve deeper in data analysis, data visualization, and machine learning,

Courses and Certification

Machine Learning | Certificate	**April 2023**
TensorFlow Developer Certificate | Certificate	**Oct 2023**
RevoU Mini Course: Intro to Data Analytics | Certificate	**Sep 2024**
DQLab Mini Bootcamp: Introduction to Data Analytics Batch 4 | Certificate	**Jan 2025**

About Company

PT Kimia Farma Tbk. merupakan *pioneer* dalam industri farmasi Indonesia yang telah berkembang menjadi perusahaan yang menyediakan pelayanan kesehatan terintegrasi dari hulu ke hilir. Kimia Farma merupakan perusahaan industri farmasi pertama di Indonesia yang didirikan oleh Pemerintah Hindia Belanda pada tahun 1817 dengan nama NV Chemicalien Handle Rathkamp & Co. Kimia Farma memiliki bidang usaha utama, yaitu: Manufaktur Farmasi yang didukung oleh Riset dan Pengembangan; Distribusi dan Perdagangan; Pemasaran; Ritel Farmasi; Laboratorium Klinik dan Klinik Kesehatan.

Project Portfolio

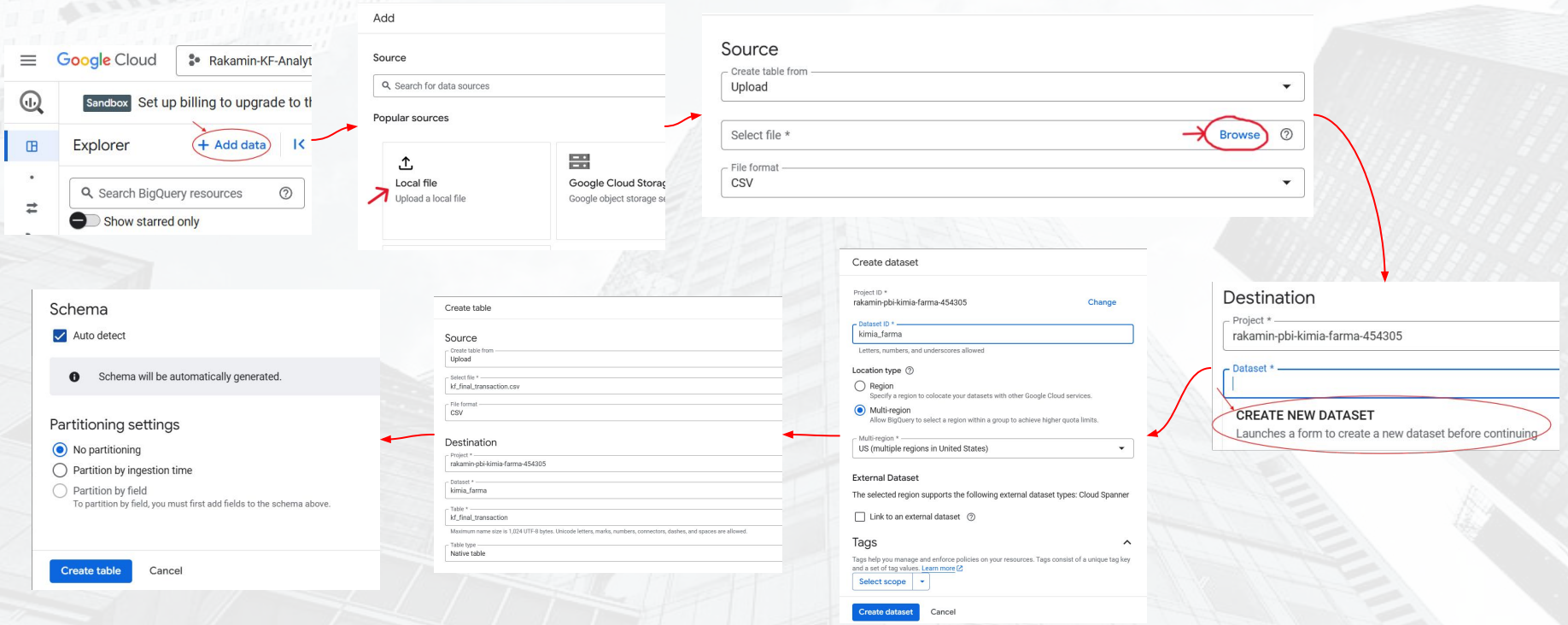
Salah satu proyek utama sebagai seorang Big Data Analytics Intern di Kimia Farma adalah mengevaluasi kinerja bisnis Kimia Farma dari tahun 2020 hingga 2023. Dalam proyek tersebut, diperlukan pembuatan sebuah dashboard analisis kinerja Kimia Farma tahun 2020 - 2023 di Google Looker Studio. Dashboard dibuat berdasarkan tabel analisa yang sebelumnya telah dibuat pada BigQuery. Adapun dashboard harus mencakup:

- Judul Dashboard
- Summary Dashboard
- FIlter Control
- Snapshot Data
- Perbandingan Pendapatan Kimia Farma dari tahun ke tahun
- Top 10 total transaksi cabang provinsi
- Top 10 nett sales cabang provinsi
- Top 5 cabang dengan rating tertinggi, namun rating transaksi terendah
- Indonesia's Geo Map untuk total profit masing-masing provinsi
- Dan analisis lainnya yang dapat dieksplorasi

Project explanation video here!

GitHub : https://github.com/meeeeeeeel/PBI_Kimia-Farma-Rakamin

1. Importing Dataset to BigQuery



1. Importing Dataset to BigQuery

- Tabel kf_final_transaction

kf_final_transaction | Query | Open in | Share | Copy | Snapshot | Delete | Export | Refresh

Schema | Details | Preview | Table Explorer (Preview) | Insights | Lineage | Data Profile | Data Quality

Filter: Enter property name or value

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

Row	transaction_id	date	branch_id	customer_name	product_id	price	discount_percen	rating
1	TRX5103706	2021-08-25	93529	Derrick Wright III	KF116	251700	0.1	3.0
2	TRX5388139	2020-12-29	24832	Elizabeth Ramos	KF116	251700	0.12	3.0
3	TRX7251897	2020-02-03	20505	Meghan Warner	KF116	251700	0.09	3.0
4	TRX4943675	2022-09-09	17678	Steven Roberts	KF116	251700	0.1	3.0
5	TRX3469820	2020-06-20	28315	Linda Bruce DDS	KF116	251700	0.07	3.0
6	TRX1213133	2021-09-17	22280	Cory Castro	KF116	251700	0.11	3.0
7	TRX2020131	2020-12-16	40028	Stephanie Boone	KF116	251700	0.03	3.0
8	TRX5015870	2022-08-17	41343	Mary Hughes	KF116	251700	0.03	3.0
9	TRX7064077	2021-06-21	86546	Tamara Bruce	KF116	251700	0.04	3.0
10	TRX5979742	2020-12-31	18235	Aaron Reed	KF116	251700	0.11	3.0
11	TRX2209141	2021-03-20	59571	Nancy Kennedy	KF116	251700	0.1	3.0
12	TRX5385534	2023-03-17	69280	Paul Morales	KF116	251700	0.11	3.0
13	TRX9155202	2020-04-11	29626	Stephen Jones	KF116	251700	0.02	3.0
14	TRX1702542	2022-09-15	48590	Zachary White	KF116	251700	0.12	3.0

Results per page: 50 | 1 – 50 of 672458

1. Importing Dataset to BigQuery

- Tabel kf_inventory

kf_inventory Query Open in

Schema Details Preview Table Explorer

Filter Enter property name or value

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

kf_inventory Query Open in Share Copy Snapshot Delete Export

Schema Details Preview Table Explorer Preview Insights Lineage Data Profile Data Quality

Row	Inventory_ID	branch_id	product_id	product_name	opname_stock
1	INV1828570	14724	KF116	Psycholeptics drugs, Hypnotics...	0
2	INV6358449	30475	KF116	Psycholeptics drugs, Hypnotics...	0
3	INV8727436	24294	KF116	Psycholeptics drugs, Hypnotics...	0
4	INV9842687	81965	KF116	Psycholeptics drugs, Hypnotics...	0
5	INV6215728	67373	KF116	Psycholeptics drugs, Hypnotics...	0
6	INV7363800	35354	KF116	Psycholeptics drugs, Hypnotics...	0
7	INV3163646	15943	KF116	Psycholeptics drugs, Hypnotics...	0
8	INV5179715	37402	KF116	Psycholeptics drugs, Hypnotics...	0
9	INV5094212	22494	KF116	Psycholeptics drugs, Hypnotics...	0
10	INV2346003	88089	KF116	Psycholeptics drugs, Hypnotics...	0
11	INV1529487	85206	KF116	Psycholeptics drugs, Hypnotics...	0
12	INV7542367	12558	KF116	Psycholeptics drugs, Hypnotics...	0
13	INV8432097	76476	KF116	Psycholeptics drugs, Hypnotics...	0
14	INV8007853	47105	KF116	Psycholeptics drugs, Hypnotics...	0
15	INV2725297	73978	KF116	Psycholeptics drugs, Hypnotics...	0

Results per page: 50 1 – 50 of 1035000

1. Importing Dataset to BigQuery

- Tabel kf_kantor_cabang

kf_kantor_cabang Query Open in

Schema Details Preview Table Explorer Previ

Filter Enter property name or value

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

kf_kantor_cabang Query Open in Share Copy Snapshot Delete Export

Schema Details Preview Table Explorer Preview Insights Lineage Data Profile Data Quality

Row	branch_id	branch_category	branch_name	kota	provinsi	rating
1	39578	Apotek	Kimia Farma - Apotek	Ambon	Maluku	4.7
2	55171	Apotek	Kimia Farma - Apotek	Ambon	Maluku	5.0
3	11400	Apotek	Kimia Farma - Apotek	Ambon	Maluku	4.1
4	38733	Apotek	Kimia Farma - Apotek	Ambon	Maluku	4.9
5	93401	Apotek	Kimia Farma - Apotek	Ambon	Maluku	4.5
6	68034	Apotek	Kimia Farma - Apotek	Ambon	Maluku	4.1
7	59260	Apotek	Kimia Farma - Apotek	Ambon	Maluku	4.1
8	49260	Apotek	Kimia Farma - Apotek	Ambon	Maluku	4.2
9	14799	Apotek	Kimia Farma - Apotek	Ambon	Maluku	4.6
10	22275	Apotek	Kimia Farma - Apotek	Ambon	Maluku	4.4
11	65902	Apotek	Kimia Farma - Apotek	Balikpapan	Kalimantan Timur	4.2
12	68961	Apotek	Kimia Farma - Apotek	Balikpapan	Kalimantan Timur	4.7
13	85014	Apotek	Kimia Farma - Apotek	Balikpapan	Kalimantan Timur	4.0
14	65560	Apotek	Kimia Farma - Apotek	Balikpapan	Kalimantan Timur	4.7
15	66421	Apotek	Kimia Farma - Apotek	Balikpapan	Kalimantan Timur	5.0

Results per page: 50 1 – 50 of 1725

1. Importing Dataset to BigQuery

- Tabel kf_product

kf_product Query Open in Sha

Schema Details Preview Table Explorer Previe

Filter Enter property name or value

Field name	Type	Mode
product_id	STRING	NULLABLE
product_name	STRING	NULLABLE
product_category	STRING	NULLABLE
price	INTEGER	NULLABLE

kf_product Query Open in Share Copy Snapshot Delete Export

Schema Details Preview Table Explorer Preview Insights Lineage Data Profile Data Quality

Row	product_id	product_name	product_category	price
1	KF766	Anti-inflammatory and antirheumatic products, non-steroids, Acetic acid derivatives and related substances	M01AB	108500
2	KF400	Anti-inflammatory and antirheumatic products, non-steroids, Acetic acid derivatives and related substances	M01AB	359500
3	KF312	Anti-inflammatory and antirheumatic products, non-steroids, Acetic acid derivatives and related substances	N02BE/B	774700
4	KF723	Anti-inflammatory and antirheumatic products, non-steroids, Acetic acid derivatives and related substances	N02BE/B	739100
5	KF874	Anti-inflammatory and antirheumatic products, non-steroids, Acetic acid derivatives and related substances	N05C	361400

Results per page: 50 1 – 50 of 150

2. Tabel Analisa

- **transaction_id** : kode id transaksi
- **date** : tanggal transaksi dilakukan
- **branch_id** : kode id cabang Kimia Farma
- **branch_name** : nama cabang Kimia Farma
- **kota** : kota cabang Kimia Farma
- **provinsi** : provinsi cabang Kimia Farma
- **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

tabel_analisis

Query | Open in | Share | Copy | Snapshot | Delete | Export

Schema | Details | Preview | Table Explorer Preview | Insights | Lineage | Data Profile | Data Quality

Row	transaction_id	date	branch_id	branch_name	kota	provinsi	rating_cabang	customer_name
1	TRX9780063	2023-09-...	37734	Kimia Farma - Apotek	Purwakarta	Jawa Barat	4.6	Omar Carney
2	TRX5596142	2021-07-...	66525	Kimia Farma - Apotek	Sibolga	Sumatera Utara	4.7	Emily Kelly
3	TRX9584952	2021-10-...	59275	Kimia Farma - Apotek	Garut	Jawa Barat	4.6	Katie Flores MD
4	TRX2246416	2020-09-...	49520	Kimia Farma - Apotek	Subang	Jawa Barat	4.4	Paul Wright
5	TRX7851532	2022-04-...	55171	Kimia Farma - Apotek	Ambon	Maluku	5.0	Amber Davidson
6	TRX9076074	2022-12-...	12560	Kimia Farma - Apotek	Padang Sidempuan	Sumatera Utara	4.4	Joann Daniels
7	TRX7511418	2020-05-...	12802	Kimia Farma - Apotek	Garut	Jawa Barat	4.1	Brandi Martin
8	TRX3291498	2021-11-...	57026	Kimia Farma - Apotek	Pematangsiantar	Sumatera Utara	4.1	Jenny Miranda
9	TRX6938546	2021-06-...	47503	Kimia Farma - Apotek	Denpasar	Bali	4.1	Max Sutton
10	TRX9380202	2020-11-...	98676	Kimia Farma - Apotek	Malang	Jawa Timur	4.4	Michael Myers

product_id	product_name	actual_price	discount_percentage	persentase_gross_laba	nett_sales	nett_profit	rating_transaksi
KF172	Psycholeptics drugs, Hypnotic...	2100	0.15	0.1	1785.0	178.5	3.6
KF172	Psycholeptics drugs, Hypnotic...	2100	0.15	0.1	1785.0	178.5	3.4
KF172	Psycholeptics drugs, Hypnotic...	2100	0.15	0.1	1785.0	178.5	3.5
KF172	Psycholeptics drugs, Hypnotic...	2100	0.15	0.1	1785.0	178.5	3.8
KF172	Psycholeptics drugs, Hypnotic...	2100	0.15	0.1	1785.0	178.5	3.8
KF172	Psycholeptics drugs, Hypnotic...	2100	0.15	0.1	1785.0	178.5	4.7
KF172	Psycholeptics drugs, Hypnotic...	2100	0.15	0.1	1785.0	178.5	3.1
KF172	Psycholeptics drugs, Hypnotic...	2100	0.15	0.1	1785.0	178.5	3.5
KF172	Psycholeptics drugs, Hypnotic...	2100	0.15	0.1	1785.0	178.5	3.9
KF172	Psycholeptics drugs, Hypnotic...	2100	0.15	0.1	1785.0	178.5	4.2

2. Tabel Analisa

- **persentase_gross_laba** : persentase laba yang seharusnya diterima dari obat dengan ketentuan sebagai berikut:
  - Harga <= Rp50.000 -> laba 10%
  - Harga > Rp50.000 - 100.000 -> laba 15%
  - Harga > Rp100.000 - 300.000 -> laba 20%
  - Harga > Rp300.000 - 500.000 -> laba 25%
  - Harga > Rp500.000 -> laba 30%
- **nett_sales** : harga setelah diskon
- **nett_profit** : keuntungan yang diperoleh Kimia Farma
- **rating_transaksi** : penilaian konsumen terhadap transaksi yang dilakukan

tabel_analisis | Query | Open in | Share | Copy | Snapshot | Delete | Export

Schema | Details | Preview | Table Explorer Preview | Insights | Lineage | Data Profile | Data Quality

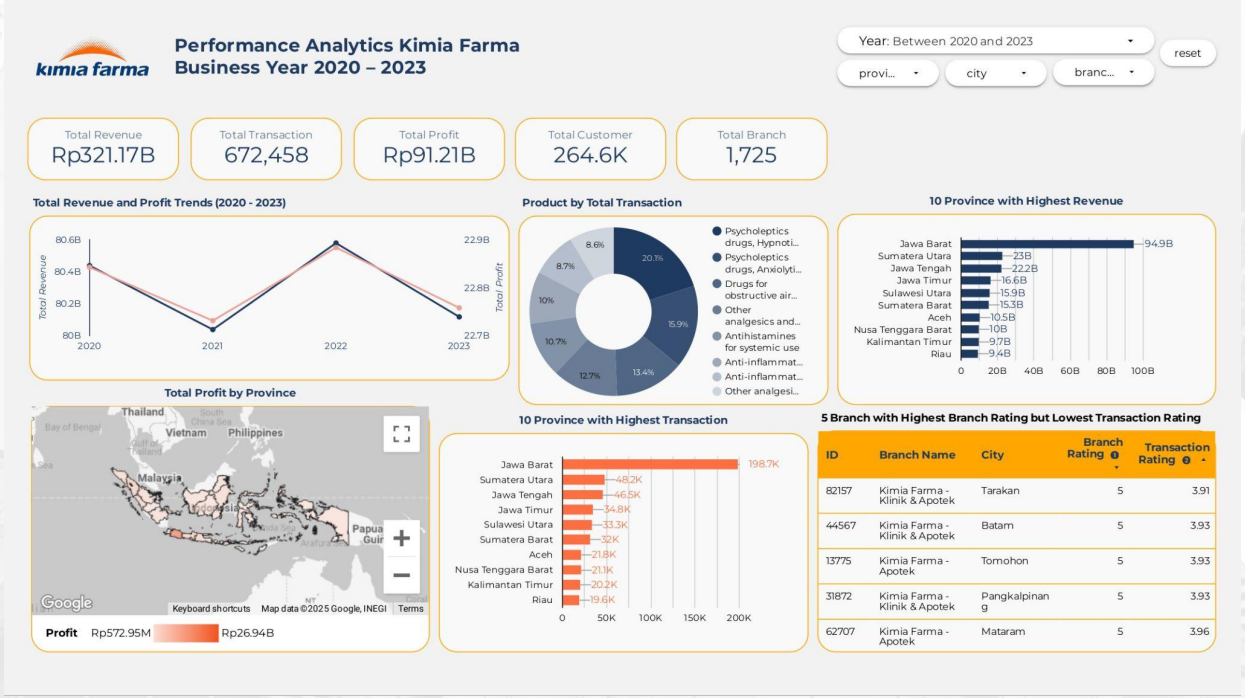
Row	transaction_id	date	branch_id	branch_name	kota	provinsi	rating_cabang	customer_name
1	TRX9780063	2023-09-...	37734	Kimia Farma - Apotek	Purwakarta	Jawa Barat	4.6	Omar Carney
2	TRX5596142	2021-07-...	66525	Kimia Farma - Apotek	Sibolga	Sumatera Utara	4.7	Emily Kelly
3	TRX9584952	2021-10-...	59275	Kimia Farma - Apotek	Garut	Jawa Barat	4.6	Katie Flores MD
4	TRX2246416	2020-09-...	49520	Kimia Farma - Apotek	Subang	Jawa Barat	4.4	Paul Wright
5	TRX7851532	2022-04-...	55171	Kimia Farma - Apotek	Ambon	Maluku	5.0	Amber Davidson
6	TRX9076074	2022-12-...	12560	Kimia Farma - Apotek	Padang Sidempuan	Sumatera Utara	4.4	Joann Daniels
7	TRX7511418	2020-05-...	12802	Kimia Farma - Apotek	Garut	Jawa Barat	4.1	Brandi Martin
8	TRX3291498	2021-11-...	57026	Kimia Farma - Apotek	Pematangsiantar	Sumatera Utara	4.1	Jenny Miranda
9	TRX6938546	2021-06-...	47503	Kimia Farma - Apotek	Denpasar	Bali	4.1	Max Sutton
10	TRX9380202	2020-11-...	98676	Kimia Farma - Apotek	Malang	Jawa Timur	4.4	Michael Myers

product_id	product_name	actual_price	discount_percentage	persentase_gross_laba	nett_sales	nett_profit	rating_transaksi
KF172	Psycholeptics drugs, Hypnotic...	2100	0.15	0.1	1785.0	178.5	3.6
KF172	Psycholeptics drugs, Hypnotic...	2100	0.15	0.1	1785.0	178.5	3.4
KF172	Psycholeptics drugs, Hypnotic...	2100	0.15	0.1	1785.0	178.5	3.5
KF172	Psycholeptics drugs, Hypnotic...	2100	0.15	0.1	1785.0	178.5	3.8
KF172	Psycholeptics drugs, Hypnotic...	2100	0.15	0.1	1785.0	178.5	3.8
KF172	Psycholeptics drugs, Hypnotic...	2100	0.15	0.1	1785.0	178.5	4.7
KF172	Psycholeptics drugs, Hypnotic...	2100	0.15	0.1	1785.0	178.5	3.1
KF172	Psycholeptics drugs, Hypnotic...	2100	0.15	0.1	1785.0	178.5	3.5
KF172	Psycholeptics drugs, Hypnotic...	2100	0.15	0.1	1785.0	178.5	3.9
KF172	Psycholeptics drugs, Hypnotic...	2100	0.15	0.1	1785.0	178.5	4.2

3. BigQuery Syntax

```sql
CREATE TABLE `kimia_farma.tabel_analisis` AS
SELECT t.transaction_id, t.date, t.branch_id,
    b.branch_name, b.kota, b.provinsi, b.rating AS rating_cabang,
    t.customer_name, t.product_id, p.product_name,
    p.price AS actual_price, t.discount_percentage,

    -- Membagi persentase_gross_laba berdasarkan besar p.price
    CASE
      WHEN p.price <= 50000 THEN 0.1
      WHEN p.price <= 100000 THEN 0.15
      WHEN p.price <= 300000 THEN 0.2
      WHEN p.price <= 500000 THEN 0.25
      ELSE 0.3
    END AS persentase_gross_laba,

    -- Menghitung nett_sales
    p.price * (1 - t.discount_percentage) AS nett_sales,

    -- Menghitung nett_profit
    p.price * (1 - t.discount_percentage) *
    CASE
      WHEN p.price <= 50000 THEN 0.1
      WHEN p.price <= 100000 THEN 0.15
      WHEN p.price <= 300000 THEN 0.2
      WHEN p.price <= 500000 THEN 0.25
      ELSE 0.3
    END AS nett_profit,

    t.rating AS rating_transaksi
FROM `kimia_farma.kf_final_transaction` t
JOIN `kimia_farma.kf_kantor_cabang` b
      ON t.branch_id = b.branch_id -- Menggabungkan tabel kf_final_transaction (dengan alias t) dan kf_kantor_cabang (dengan alias b)
JOIN `kimia_farma.kf_product` p
      ON t.product_id = p.product_id -- Menggabungkan tabel dengan tabel kf_product (dengan alias p)
```

4. Dashboard Performance Analytics



Dashboard : https://lookerstudio.google.com/s/mQtb9B3qboc

Thank You

Rakamin Academy X kimia farma