Kimia Farma Business Analytic Year 2020 - 2023

Kimia Farma - Big Data Analytics

Presented by

Danu Satria Wiratama

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Data and Machine Learning Enthusiast

I am a computer science graduate from Satya Wacana Christian University with a concentration in data science. I completed an online bootcamp at Rakamin Academy with a topic of data science, which further enhanced my skills in data analysis and machine learning. I have mastered several skills such as SQL, python, data visualization, and additional proficiency in machine learning for further modeling and analysis.

Kota Salatiga

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Courses and Certification

Rakamin Data Science Bootcamp | [certificate](#)   **June - November, 2024**

Revo U Intro to Data Analytics | [certificate](#)   **January - February, 2023**

Microsoft Fundamentals : AZ-DP-AI-PL | [certificate](#)   **July - September, 2021**

About Company

Kimia Farma adalah perusahaan industri farmasi pertama di Indonesia yang didirikan pada 16 Agustus 1971. Perusahaan ini sekarang berkembang menjadi perusahaan dengan pelayanan kesehatan (*healthcare*) terintegrasi di Indonesia. Hal ini didukung melalui kegiatan manufaktur farmasi, riset dan pengembangan, distribusi dan perdagangan, pemasaran, ritel farmasi, laboratorium klinik dan klinik kesehatan.
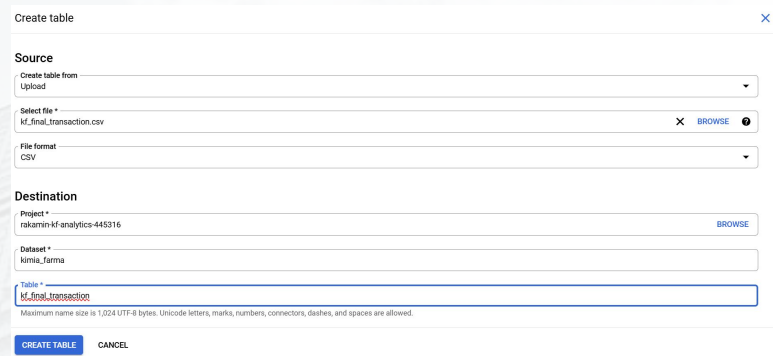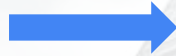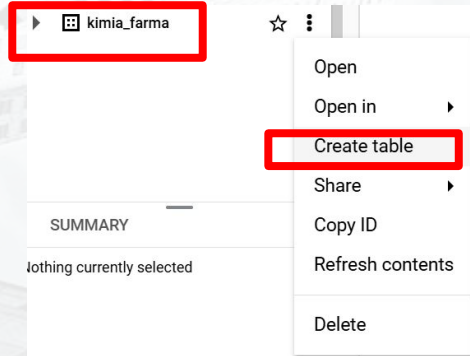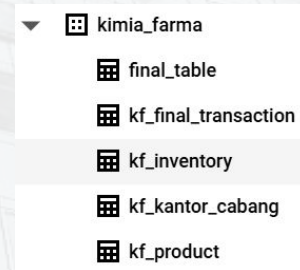
Project **Portfolio**

Kimia farma sedang melakukan evaluasi penjualan dari tahun 2020 hingga tahun 2023 menggunakan data yang sudah tersedia. Selanjutnya kami sebagai tim Big Data Analytic Intern disini untuk membantu perusahaan menggali insight dari data tersebut sehingga dapat digunakan bagi perusahaan untuk menentukan strategi kedepannya.

Project explanation video here !

1. Importing Dataset to BigQuery

Lakukan hal yang sama untuk keempat tabel (kf_final_transaction, kf_inventory, kf_kantor_cabang, kf_product)

2. Tabel Analisa

kf_final_transaction

PK	transaction_id
FK	product_id
FK	branch_id
	customer_name
	date
	price
	discount_percentage
	rating

kf_product

PK	product_id
	product_name
	product_category
	price

kf_kantor_cabang

PK	branch_id
	branch_category
	branch_name
	kota
	provinsi
	rating

kf_inventory

PK	inventory_id
	branch_id
	product_id
	product_name
	opname_stock

Melakukan join dari tabel tersebut dengan nama **final_table** yang berisi :

transaction_id, date, branch_id, branch_name, kota, provinsi, rating_cabang, customer_name, product_id, product_name, actual_price, discount_percentage, rating_transaksi,
nett_sales : *price - price * discount_percentage*,
nett_profit : *(price - price discount_percentage) * persentase_gross_laba*

CTE persetase_gross_laba :
- Harga <= 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%

2. Tabel Analisa

transact	date	branch_id	branch_name	kota	provinsi	rating	customer_	product_id	product_name	actual_pr	discount_p	persentas	nett_sales	nett_profit	rating_trar
TRX5103706	25/08/2021	93529	Kimia Farma - Klinik & Apotek	Yogyakarta	DI Yogyakarta	4,3	Derrick Wright III	KF116	Psycholeptics drugs, Hyp	251700	0,1	0,2	226530	45306	3
TRX5388139	29/12/2020	24832	Kimia Farma - Klinik-Apotek-Lab	Pekanbaru	Riau	4,2	Elizabeth Ramos	KF116	Psycholeptics drugs, Hyp	251700	0,12	0,2	221496	44299,2	3
TRX7251897	03/02/2020	20505	Kimia Farma - Apotek	Cilacap	Jawa Tengah	4,5	Meghan Warner	KF116	Psycholeptics drugs, Hyp	251700	0,09	0,2	229047	45809,4	3
TRX4943675	09/09/2022	17678	Kimia Farma - Klinik & Apotek	Subang	Jawa Barat	4,8	Steven Roberts	KF116	Psycholeptics drugs, Hyp	251700	0,1	0,2	226530	45306	3
TRX3469820	20/06/2020	28315	Kimia Farma - Klinik-Apotek-Lab	Sukabumi	Jawa Barat	3,9	Linda Bruce DDS	KF116	Psycholeptics drugs, Hyp	251700	0,07	0,2	234081	46816,2	3
TRX1213133	17/09/2021	22280	Kimia Farma - Apotek	Batam	Kepulauan Riau	4,5	Cory Castro	KF116	Psycholeptics drugs, Hyp	251700	0,11	0,2	224013	44802,6	3
TRX2020131	16/12/2020	40028	Kimia Farma - Klinik-Apotek-Lab	Balikpapan	Kalimantan Timu	4	Stephanie Boone	KF116	Psycholeptics drugs, Hyp	251700	0,03	0,2	244149	48829,8	3
TRX5015870	17/08/2022	41343	Kimia Farma - Apotek	Semarang	Jawa Tengah	4	Mary Hughes	KF116	Psycholeptics drugs, Hyp	251700	0,03	0,2	244149	48829,8	3
TRX7064077	21/06/2021	86546	Kimia Farma - Klinik & Apotek	Pematangsianta	Sumatera Utara	4,5	Tamara Bruce	KF116	Psycholeptics drugs, Hyp	251700	0,04	0,2	241632	48326,4	3
TRX5979742	31/12/2020	18235	Kimia Farma - Klinik & Apotek	Pekanbaru	Riau	4,8	Aaron Reed	KF116	Psycholeptics drugs, Hyp	251700	0,11	0,2	224013	44802,6	3
TRX2209141	20/03/2021	59571	Kimia Farma - Klinik-Apotek-Lab	Tarakan	Kalimantan Utar	4,9	Nancy Kennedy	KF116	Psycholeptics drugs, Hyp	251700	0,1	0,2	226530	45306	3
TRX5385534	17/03/2023	69280	Kimia Farma - Klinik-Apotek-Lab	Purwakarta	Jawa Barat	4	Paul Morales	KF116	Psycholeptics drugs, Hyp	251700	0,11	0,2	224013	44802,6	3

(final_table)

3. BigQuery Syntax

1. Pembuatan CTE
   (persentase_gross_laba)

```sql
WITH PersentaseGrossLaba AS (
  SELECT DISTINCT
    product_id,
    CASE
      WHEN price <= 50000 THEN 0.1
      WHEN price > 50000 AND price <= 100000 THEN 0.15
      WHEN price > 100000 AND price <= 300000 THEN 0.20
      WHEN price > 300000 AND price <= 500000 THEN 0.25
      WHEN price > 500000 THEN 0.3
    END AS persentase_gross_laba
  FROM kimia_farma.kf_final_transaction
)
```

2. Memilih kolom

```sql
SELECT DISTINCT
  FT.transaction_id,
  FT.date,
  KC.branch_id,
  KC.branch_name,
  KC.kota,
  KC.provinsi,
  KC.rating,
  FT.customer_name,
  FT.product_id,
  PD.product_name,
  PD.price as actual_price,
  FT.discount_percentage,
```
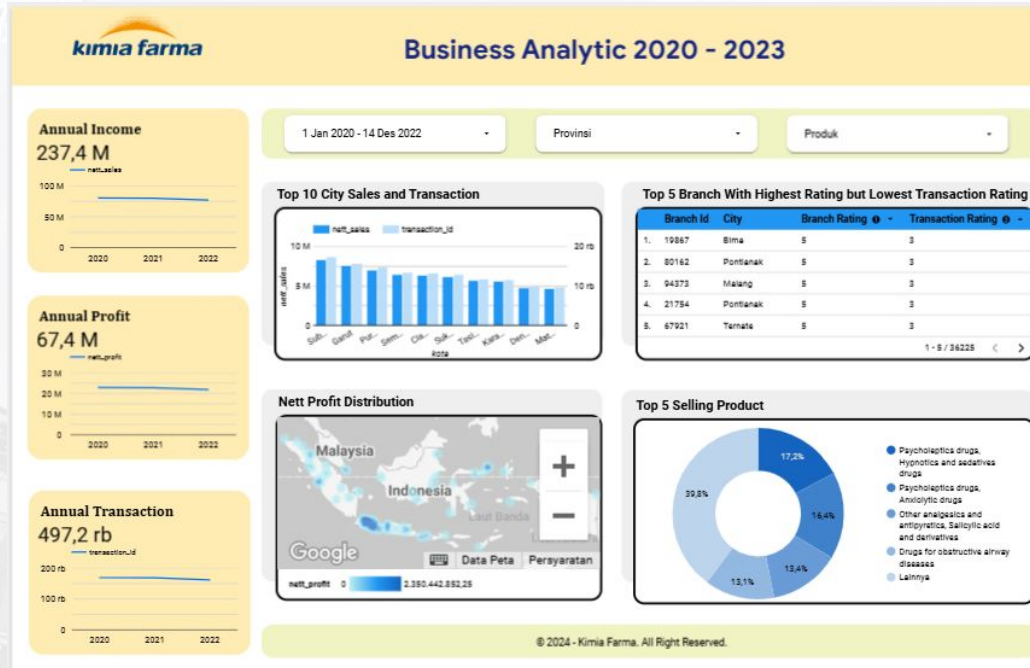
3. Membuat kolom nett_sales dan nett_profit

```sql
  PGL.persentase_gross_laba,
  (FT.price - FT.price * FT.discount_percentage) AS nett_sales,
  (FT.price - FT.price * FT.discount_percentage) * PGL.persentase_gross_laba AS nett_profit,
  FT.rating as rating_transaksi
```

4. Join tabel

```sql
FROM
  kimia_farma.kf_final_transaction as FT
LEFT JOIN
  kimia_farma.kf_kantor_cabang as KC
  ON FT.branch_id = KC.branch_id
LEFT JOIN
  kimia_farma.kf_product as PD
  ON FT.product_id = PD.product_id
LEFT JOIN
  PersentaseGrossLaba as PGL
  ON PGL.product_id = FT.product_id
```

For detail code click here

4. Dashboard Performance Analytics

Open dashboard here

Thank You

Rakamin Academy X kimia farma