Rakamin Academy X kimia farma

Business Performance Analytics 2020-2023

Kimia Farma - Big Data Analytics

Presented by
Husnia Munzayana

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Husnia Munzayana

Undergraduate Student of Informatics at Institut Teknologi Bandung

I am from Sragen, Central Java. Previously, I received my education at SMA Negeri 1 Surakarta. Currently, as a third-year student majoring in Informatics at Bandung Institute of Technology, I bring a foundation in data science and full-stack website development. Through coursework and hands-on projects, I've honed my skills in programming languages, database management, and web development frameworks, enabling me to excel in roles that require analytical thinking and creative problem solving within the computer science field.

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About Company

Kimia Farma is a pharmaceutical company based in Indonesia. It is one of the oldest and largest pharmaceutical companies in the country, with a history dating back to 1817. Originally established as a Dutch colonial pharmacy, Kimia Farma has since evolved into a modern pharmaceutical company engaged in the manufacture, distribution and retailing of pharmaceutical products, medical devices and healthcare services. The company operates in several segments, including prescription drugs, over-the-counter drugs, herbal medicines and healthcare facilities. Kimia Farma plays a significant role in Indonesia's healthcare sector, providing essential medicines and healthcare solutions to the population.

Project Portfolio

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As a big data analytics intern at Kimia Farma, I was assigned to analyze the company's business performance for the years 2020 to 2023. My responsibilities include creating analysis tables and presenting reports through dashboards to evaluate Kimia Farma's business performance during the specified time period. The analysis table was implemented using the BigQuery platform, while the dashboard was developed using Looker Studio.

The provided dataset consists of the following tables:

- kf_final_transaction
- kf_inventory
- kf_kantor_cabang
- kf_product

From that dataset, we were asked to create a data analysis table from the existing raw data and visualize the company's performance report with a dashboard.

Project Repository here!
https://github.com/munzayanahusn/VIX-Kimia-Farma-Data-Analytics.git

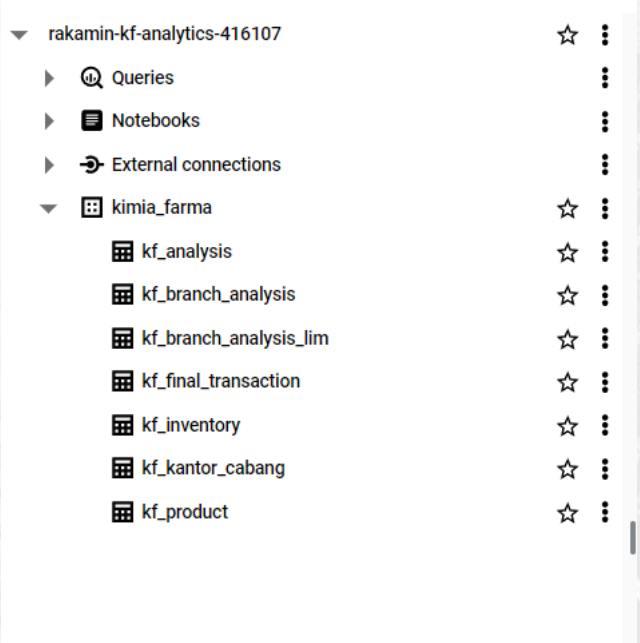
Project explanation video here!
https://youtu.be/frSdz65cFKQ

1. Importing Dataset to BigQuery

In the first task, I was asked to import the four records provided:

- kf_final_transaction.csv
- kf_inventory.csv
- kf_kantor_cabang.csv
- kf_product.csvFirst,

I created a new project in BigQuery Studio Google Cloud named "Rakamin-KF-Analytics". Then I created a new dataset named "kimia_farma". Then I imported the provided tables into the kimia_farma dataset.



2. Tabel Analisa

In the second task, I was asked to create an **analysis table** based on the aggregated results of the four tables, based on the aggregated results of the four tables that have been imported before.

Therefore, I created an **SQL query** to be able to display the mandatory analysis columns that have been determined.

The analysis query can be seen in **the repository in the `query.sql` file.**

Row	transaction_id	date	branch_id	branch_name	kota	provinsi	rating_c	customer_name	product_id	product_name	actual_price	discount_p	persentase_g	nett_sales	nett_profit	rating_tra
1	TRX3572915	2023-05-24	42922	Kimia Farma - Apotek	Palangkaraya	Kalimantan Tengah	4.1	Brian Mcfarland	KF601	Psycholeptics drugs, A...	512000	0.04	0.3	491520.0	-20480.0	3.4
2	TRX8034100	2021-11-15	14495	Kimia Farma - Apotek	Banjarmasin	Kalimantan Selatan	4.8	Thomas Perez	KF601	Psycholeptics drugs, A...	512000	0.04	0.3	491520.0	-20480.0	3.4
3	TRX2967006	2021-12-08	87938	Kimia Farma - Apotek	Samarinda	Kalimantan Timur	4.5	Amy Brandt	KF601	Psycholeptics drugs, A...	512000	0.04	0.3	491520.0	-20480.0	4.8
4	TRX4662458	2020-04-27	29922	Kimia Farma - Apotek	Purwokerto	Jawa Tengah	3.9	Sydney Gutierrez	KF601	Psycholeptics drugs, A...	512000	0.04	0.3	491520.0	-20480.0	3.2
5	TRX3678735	2021-05-23	36256	Kimia Farma - Apotek	Sukabumi	Jawa Barat	4.1	Oscar Valdez	KF601	Psycholeptics drugs, A...	512000	0.04	0.3	491520.0	-20480.0	3.6
6	TRX1389841	2021-02-08	48617	Kimia Farma - Apotek	Tasikmalaya	Jawa Barat	4.3	Jacob Anderson	KF601	Psycholeptics drugs, A...	512000	0.04	0.3	491520.0	-20480.0	3.9
7	TRX7396209	2021-11-17	16339	Kimia Farma - Apotek	Subang	Jawa Barat	4.7	Amber Ramsey	KF601	Psycholeptics drugs, A...	512000	0.04	0.3	491520.0	-20480.0	3.3
8	TRX6906361	2022-01-28	23248	Kimia Farma - Apotek	Bima	Nusa Tenggara Bar...	4.1	Elizabeth Thomps...	KF601	Psycholeptics drugs, A...	512000	0.04	0.3	491520.0	-20480.0	3.8
9	TRX3390466	2022-10-05	35019	Kimia Farma - Apotek	Banjarmasin	Kalimantan Selatan	5.0	Patricia Morrow	KF601	Psycholeptics drugs, A...	512000	0.04	0.3	491520.0	-20480.0	3.7
10	TRX2175935	2020-11-05	69761	Kimia Farma - Apotek	Subang	Jawa Barat	4.9	Rachel Perez DVM	KF601	Psycholeptics drugs, A...	512000	0.04	0.3	491520.0	-20480.0	3.4
11	TRX4861015	2021-11-08	24277	Kimia Farma - Apotek	Lhokseumawe	Aceh	4.2	Nicole Wilson	KF601	Psycholeptics drugs, A...	512000	0.04	0.3	491520.0	-20480.0	3.7
12	TRX3912645	2020-07-18	47175	Kimia Farma - Apotek	Bekasi	Jawa Barat	4.9	Jasmine Jackson	KF601	Psycholeptics drugs, A...	512000	0.04	0.3	491520.0	-20480.0	4.9

3. BigQuery Syntax

```
CREATE TABLE kimia_farma.kf_analysis AS
SELECT tr.transaction_id,
  tr.date,
  tr.branch_id,
  kc.branch_name,
  kc.kota,
  kc.provinsi,
  kc.rating AS rating_cabang,
  tr.customer_name,
  tr.product_id,
  pd.product_name,
  pd.price AS actual_price,
  tr.discount_percentage,
  CASE
    WHEN pd.price <= 50000 then 0.1
    WHEN pd.price > 50000 AND pd.price <= 100000 then 0.15
    WHEN pd.price > 100000 AND pd.price <= 300000 then 0.2
    WHEN pd.price > 300000 AND pd.price <= 500000 then 0.25
    ELSE 0.3      --pd.price >500000
    END AS persentase_gross_laba,
  (pd.price * (1-tr.discount_percentage)) AS nett_sales,
  ((tr.price * (1-tr.discount_percentage)) - pd.price)AS nett_profit,
  tr.rating AS rating_transaksi
FROM kimia_farma.kf_final_transaction AS tr
  LEFT JOIN kimia_farma.kf_kantor_cabang AS kc
  ON (tr.branch_id = kc.branch_id)
  LEFT JOIN kimia_farma.kf_product AS pd
  ON (tr.product_id = pd.product_id)
;
```

```
CREATE TABLE kimia_farma.kf_branch_analysis_lim AS
SELECT kc.branch_id,
  kc.branch_name,
  AVG(tr.rating) AS rating_transaction,
  kc.rating AS rating_branch
FROM kimia_farma.kf_kantor_cabang AS kc
  LEFT JOIN kimia_farma.kf_final_transaction AS tr
  ON (kc.branch_id = tr.branch_id)
GROUP BY kc.branch_id, kc.branch_name, kc.rating
ORDER BY AVG(tr.rating) ASC, kc.rating DESC
LIMIT 5
;
```

4. Dashboard Performance Analytics

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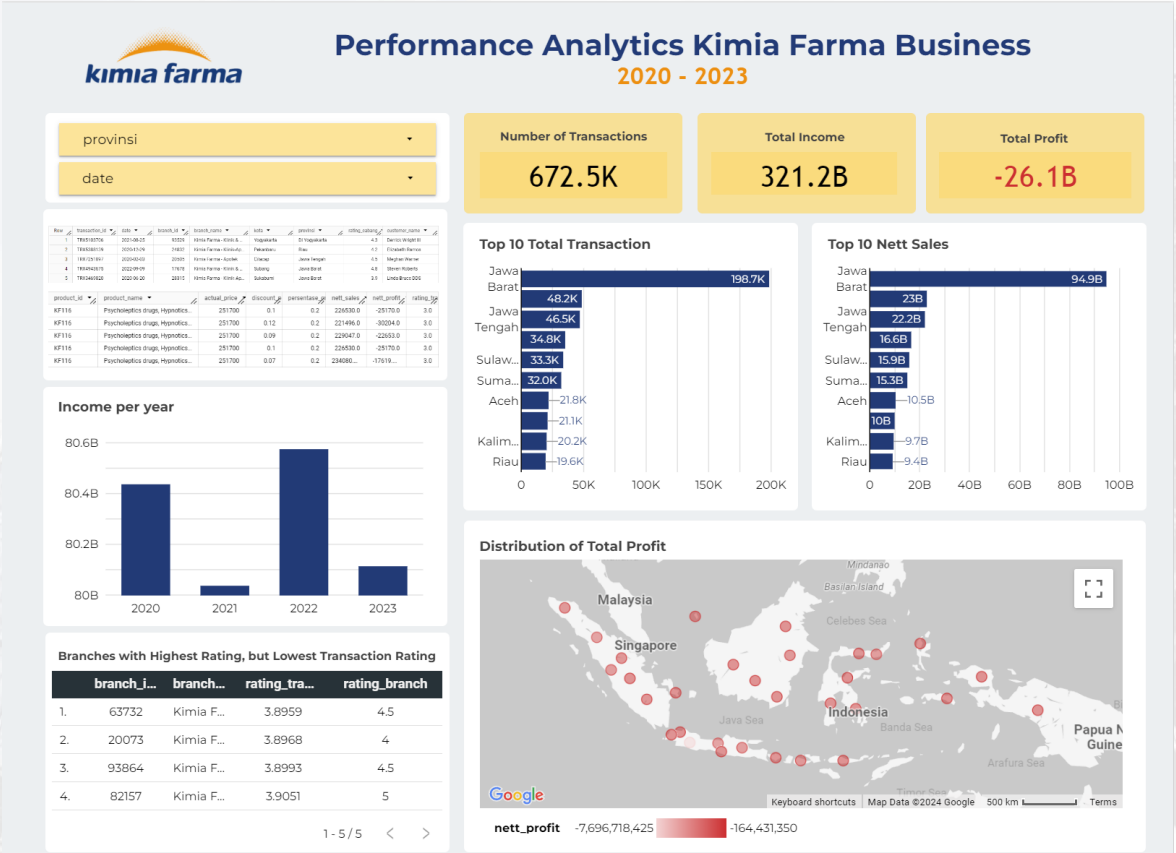
Next, I was asked to create a performance analysis visualization in the form of a dashboard built through Looker Studio.

Project Dashboard [here](https://lookerstudio.google.com/s/qgr_JPexnm8)!



Thank You

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