Rakamin Academy X kimia farma

Business Performance Analysis of Kimia Farma (2020-2023)

Kimia Farma - Big Data Analytics

Presented by
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Jobseeker

Final-year Mathematics student specializing in data science, with a strong foundation in machine learning, statistics. Proficient in Python, Excel, and SQL for data processing and machine learning applications. Passionate about data analytics. Skilled in solving complex problems and building data-driven models to derive valuable insights.

*notes: just a sample page

About Company

Kimia Farma is Indonesia's first pharmaceutical company, established by the Dutch East Indies government in 1817 under the name **NV Chemicalien Handle Rathkamp & Co.** Following the nationalization policy of former Dutch companies after Indonesia's independence, the Indonesian government merged several pharmaceutical companies in 1958 to form **Perusahaan Negara Farmasi (PNF) Bhinneka Kimia Farma**. On August 16, 1971, its legal status was transformed into a **Perseroan Terbatas (Limited Liability Company)**, officially becoming **PT Kimia Farma (Persero)**.

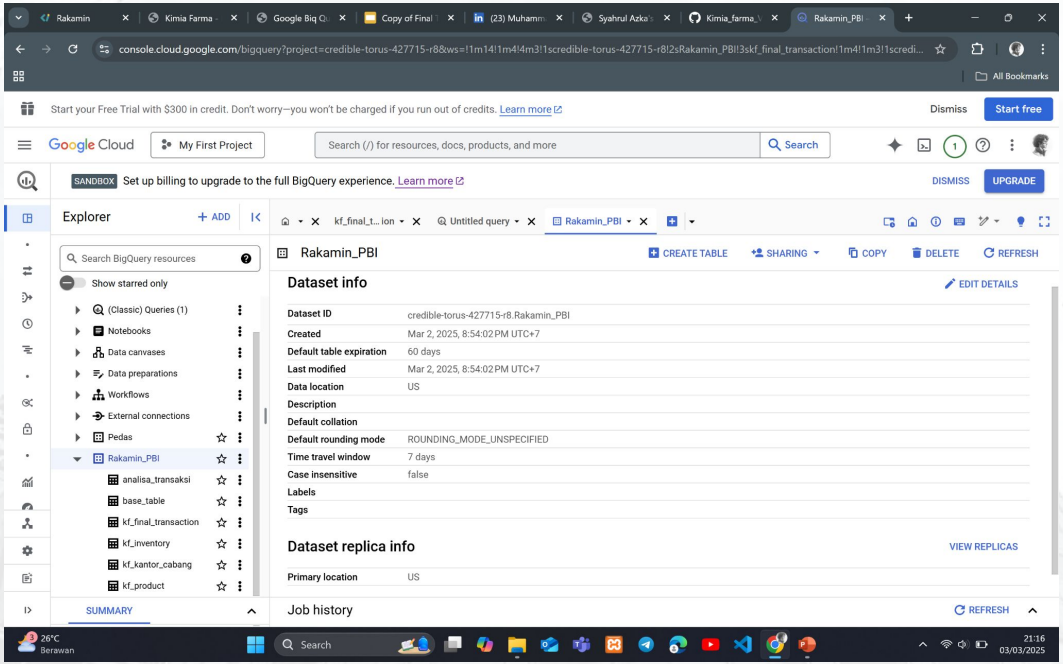
Project Portfolio

As a **Big Data Analytics Intern** at **Kimia Farma**, you will face a series of challenges that require a deep understanding of data and strong analytical skills. One of your main projects will be **evaluating Kimia Farma's business performance from 2020 to 2023**.

Project explanation video here!

<buat hyperlink di kata "here" di atas, sisipkan link youtube yang berisi rekaman anda melakukan presentasi penjelasan hasil pengerjaan final task. Hapus pesan ini jika anda telah memahami pesan ini>

1. Importing Dataset to BigQuery



https://console.cloud.google.com/bigquery?ws=!1m4!1m3!3m2!1scredible-torus-427715-r8!2sRakamin_PBI

2. Tabel Analisa

```sql
CREATE OR REPLACE TABLE Rakamin_PBI.base_table AS
SELECT
    j.transaction_id,
    j.date,
    j.customer_name,
    j.branch_id,
    b.branch_name,
    b.kota,
    b.provinsi,
    p.product_id,
    p.product_name,
    p.product_category,
    j.price AS original_price,
    j.discount_percentage,
    (j.price * (1 - j.discount_percentage / 100)) AS final_pric
e,  j.rating AS transaction_rating,
    b.rating AS branch_rating,
    i.opname_stock
FROM Rakamin_PBI.kf_final_transaction j
LEFT JOIN Rakamin_PBI.kf_kantor_cabang b
    ON j.branch_id = b.branch_id
LEFT JOIN Rakamin_PBI.kf_product p
    ON j.product_id = p.product_id
LEFT JOIN Rakamin_PBI.kf_inventory i
    ON j.product_id = i.product_id AND j.branch_id = i.branch_id;
```

Strategy Explanation for Data Mart Creation

The query creates a **base table** that integrates transaction, branch, product, and inventory data to enable comprehensive analysis.

Key Steps in the Query:

1. **Joining Transactions (`kf_final_transaction`) with Branch Data (`kf_kantor_cabang`)**
   - Retrieves `branch_name`, `kota`, `provinsi`, and `branch_rating`.
2. **Joining with Product Data (`kf_product`)**
   - Adds `product_name` and `product_category`.
3. **Joining with Inventory Data (`kf_inventory`)**
   - Matches products by `product_id` and `branch_id` to get `opname_stock`.
4. **Calculating Key Metrics:**
   - `final_price`: Price after applying `discount_percentage`.
   - `transaction_rating` and `branch_rating`: For customer feedback analysis.

This **data mart** serves as a foundation for analyzing sales performance, product availability, and customer satisfaction.

3. BigQuery Syntax

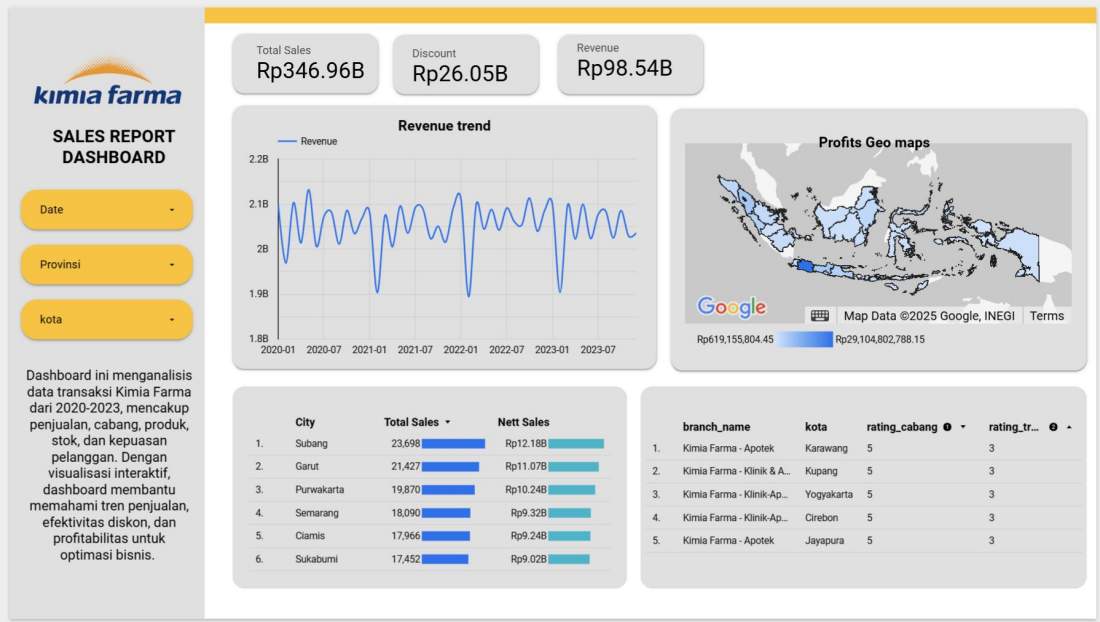
```sql
CREATE OR REPLACE TABLE Rakamin_PBI.analisa_transaksi AS
SELECT
    j.transaction_id,
    j.date,
    j.branch_id,
    b.branch_name,
    b.kota,
    b.provinsi,
    b.rating AS rating_cabang,
    j.customer_name,
    j.product_id,
    p.product_name,
    j.price AS actual_price,
    j.discount_percentage,
    -- Menentukan persentase gross laba berdasarkan kategori harga
    CASE
        WHEN j.price <= 50000 THEN 0.10
        WHEN j.price > 50000 AND j.price <= 100000 THEN 0.15
        WHEN j.price > 100000 AND j.price <= 300000 THEN 0.20
        WHEN j.price > 300000 AND j.price <= 500000 THEN 0.25
        ELSE 0.30
    END AS persentase_gross_laba,
    -- Harga setelah diskon
    (j.price * (1 - j.discount_percentage / 100)) AS nett_sales,
    -- Perhitungan nett profit (nett sales * persentase laba)
    (j.price * (1 - j.discount_percentage / 100)) *
    CASE
        WHEN j.price <= 50000 THEN 0.10
        WHEN j.price > 50000 AND j.price <= 100000 THEN 0.15
        WHEN j.price > 100000 AND j.price <= 300000 THEN 0.20
        WHEN j.price > 300000 AND j.price <= 500000 THEN 0.25
        ELSE 0.30
    END AS nett_profit,
    j.rating AS rating_transaksi
FROM Rakamin_PBI.kf_final_transaction j
LEFT JOIN Rakamin_PBI.kf_kantor_cabang b
    ON j.branch_id = b.branch_id
LEFT JOIN Rakamin_PBI.kf_product p
    ON j.product_id = p.product_id;
```

This query creates **Rakamin_PBI.analisa_transaksi**, a transaction analysis table that provides key insights into sales performance, customer transactions, and branch performance.

Key Steps in the Query:

1. **Joining Transaction Data (`kf_final_transaction`) with Branch Data (`kf_kantor_cabang`)**
   - Retrieves branch details (`branch_name`, `kota`, `provinsi`, `rating_cabang`).
2. **Joining with Product Data (`kf_product`)**
   - Adds `product_name` for better product-level analysis.
3. **Gross Profit Margin Calculation:**
   - Determines `persentase_gross_laba` based on product price categories:
     - ≤ 50,000 → 10%
     - 50,001 - 100,000 → 15%
     - 100,001 - 300,000 → 20%
     - 300,001 - 500,000 → 25%
     - 500,000 → 30%
4. **Net Sales Calculation:**
   - `nett_sales` = Price after applying the discount.
5. **Net Profit Calculation:**
   - `nett_profit` = `nett_sales` * `persentase_gross_laba`.
6. **Customer Satisfaction Analysis:**
   - Includes `rating_transaksi` to measure transaction experience.

4. Dashboard Performance Analytics



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Thank You