Final Project

Business Intelligence Analyst

Presented by
Epul Saepulloh

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About Me

I am bachelor mathematics from Padjadjaran University who is trained to think logically and structured. I have experience collecting, transforming and organizing data for analysis to help make informed decisions. Excellent understanding and proficiency in using effective data analysis platforms, including SQL, spreadsheet, Tableau, and R. Strong communication, organizational, and Analytics skills.

Insert Your Experience

- **Coursera & Baparekraf Digital Talent**
  Certificate in Google Data Analytics
  Oct 2022 - Dec 2022

- **Binar Academy & Digitalent Kominfo**
  Certificate in Data Science
  Mar 2023 - Apr 2023

- **Dicoding Indonesia & IDCamp**
  Certificate in Data Scientist
  Sep 2023 - Okt 2023

Case Study

As a BI Analyst of PT Sejahtera Bersama, I have 5 challenges to finish. The challenges:
1. Determine each primary key in the 4 datasets Sale.
2. Create Entity Relationship Diagram of the database.
3. Create master table from the chosen columns.
4. Visualize sales performance using dashboard in Looker Studio.
5. Gather insights and recommendation from the analysis and visualization.

Tools:
1. Google BigQuery
2. Looker Studio

Result

Challenge 1: Dataset Primary Key

The primary Key for each dataset:

1. Primary key tabel Customer : CustomerID
2. Primary key tabel Products : ProdNumber
3. Primary key tabel Orders : OrderID
4. Primary key tabel ProductCategory : CategoryID

Challenge 2: Dataset Relationship

Dataset Relationship:

- **Customer – Orders:**
  One-to-Many
- **Product-Orders :**
  One-to-Many
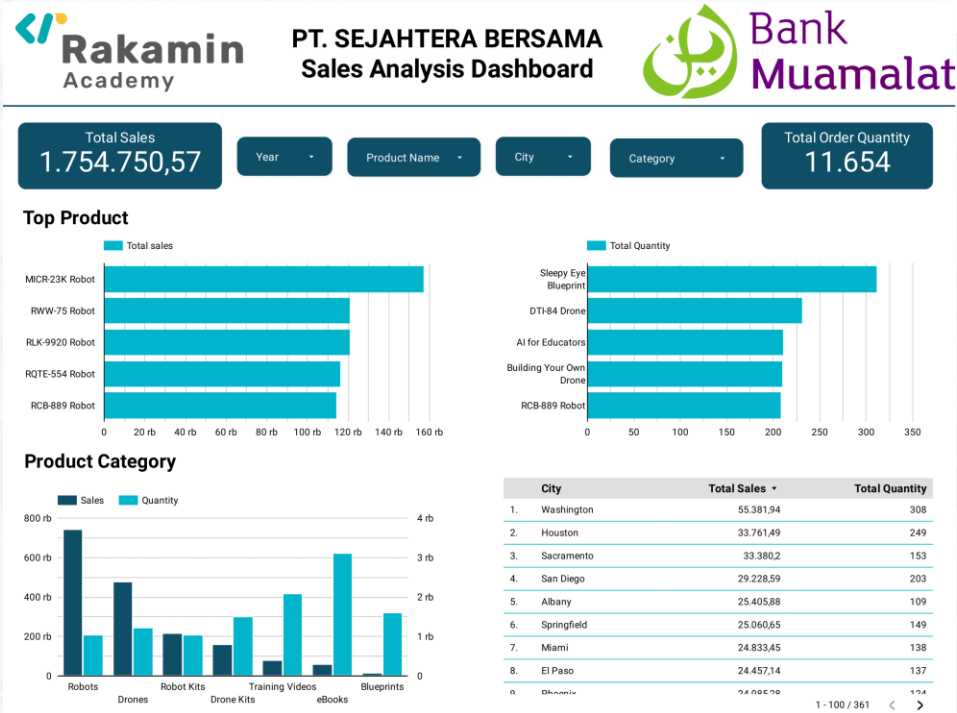- **Product-Productcategory :**
  One-to-Many
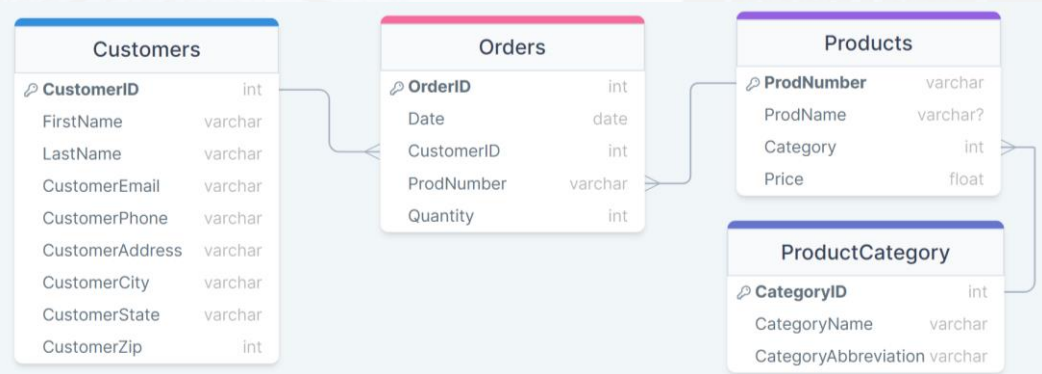
Challenge 3: Create a Master Table

Query to generate the master table from Google BigQuery:

```sql
SELECT
    `bankmuamalat-403208.BankMuamalat.Orders`.Date as order_date,
    `bankmuamalat-403208.BankMuamalat.ProductCategory`.CategoryName as category_name,
    `bankmuamalat-403208.BankMuamalat.Products`.ProdName as product_name,
    (`bankmuamalat-403208.BankMuamalat.Products`.Price/100) as product_price,
    `bankmuamalat-403208.BankMuamalat.Orders`.Quantity as order_qty,
    (`bankmuamalat-403208.BankMuamalat.Orders`.Quantity*(`bankmuamalat-
403208.BankMuamalat.Products`.Price/100)) as total_sales,
    `bankmuamalat-403208.BankMuamalat.Customers`.CustomerEmail as cust_email,
    `bankmuamalat-403208.BankMuamalat.Customers`.CustomerCity as cust_city,
FROM `bankmuamalat-403208.BankMuamalat.Orders`
    INNER JOIN `bankmuamalat-403208.BankMuamalat.Customers` ON `bankmuamalat-
403208.BankMuamalat.Orders`.CustomerID = `bankmuamalat-403208.BankMuamalat.Customers`.CustomerID
    INNER JOIN `bankmuamalat-403208.BankMuamalat.Products` ON `bankmuamalat-
403208.BankMuamalat.Orders`.ProdNumber = `bankmuamalat-403208.BankMuamalat.Products`.ProdNumber
    INNER JOIN `bankmuamalat-403208.BankMuamalat.ProductCategory` ON `bankmuamalat-
403208.BankMuamalat.Products`.Category = `bankmuamalat-403208.BankMuamalat.ProductCategory`.CategoryID
ORDER BY
    order_date;
```

Challenge 4: Creating a Report

The visualization contains:
- Total sales
- Total sales based on product category
- Total qty based on product category
- Total sales by city
- Total qty by city
- Top 5 product categories with the highest sales
- Top 5 product categories with the highest qty

https://lookerstudio.google.com/reporting/d2eeb881-e856-4411-88a6-1a4880193786/page/4ekgD

Challenge 5: Insight & Recomendation

1. Total Sales and Number of Orders in 2021 are lower than in 2020. The sales team must set higher targets for the next year.
2. Robot products have the highest total sales but the lowest order quantity, this shows that robots have the highest prices even though sales quantity is low. The sales team is advised to provide discounts for higher order quantities on Robot Products.
3. eBooks have the highest number of orders but low total sales. Sales teams are advised to increase prices and provide special offers for high order quantities.
4. Robot sales should be the team's main focus due to its high potential contribution to revenue.
5. Washington is the highest city in Sales and Order Quantity, followed by Houston. The sales team is advised to focus on these two cities to improve sales performance. In contrast, Metairie is the smallest city in Sales and Number of Orders. The Sales Division is advised to analyze customer behavior in Metairie and develop strategies to improve sales performance.

See the details in Github:

https://github.com/esaepulloh/FinalTask_BIAnalystRakamin

Video Presentation Here

https://drive.google.com/file/d/1lkW9o_1-fc5mZI-A5QyOX03b6m43HWpS/view

Thank You

Rakamin Academy X Bank Muamalat