

# Final Task

Bank Muamalat Business Intelligence Analyst  
Project Based Internship Program

Presented by  
**M. Cita Prasetya Agam**



## M. Cita Prasetya Agam

### About You

Full-Stack Web Developer with over 2+ years of experience in creating pixel-perfect, responsive, and accessible websites. Expert in transforming complex designs into high-performance applications. Skilled in frontend with backend knowledge, leading projects, and collaborating with international teams to deliver innovative solutions

### Experience

#### **Experience 1**

Skilvul - Full-Stack Web Developer Internship  
( August 2023 - December 2023 )

#### **Experience 2**

Project-Based Virtual Intern : Data Scientist Home Credit Indonesia x Rakamin Academy  
( April 2025 )

# Primary Key

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

# Relationship Antar Tabel

## 1. Orders – Customers (CustomerID)

- Tabel Orders memiliki atribut CustomerID sebagai **foreign key** yang mengacu pada CustomerID di tabel Customers. Relasi ini bersifat **One-to-Many**, artinya satu pelanggan dapat memiliki banyak pesanan.

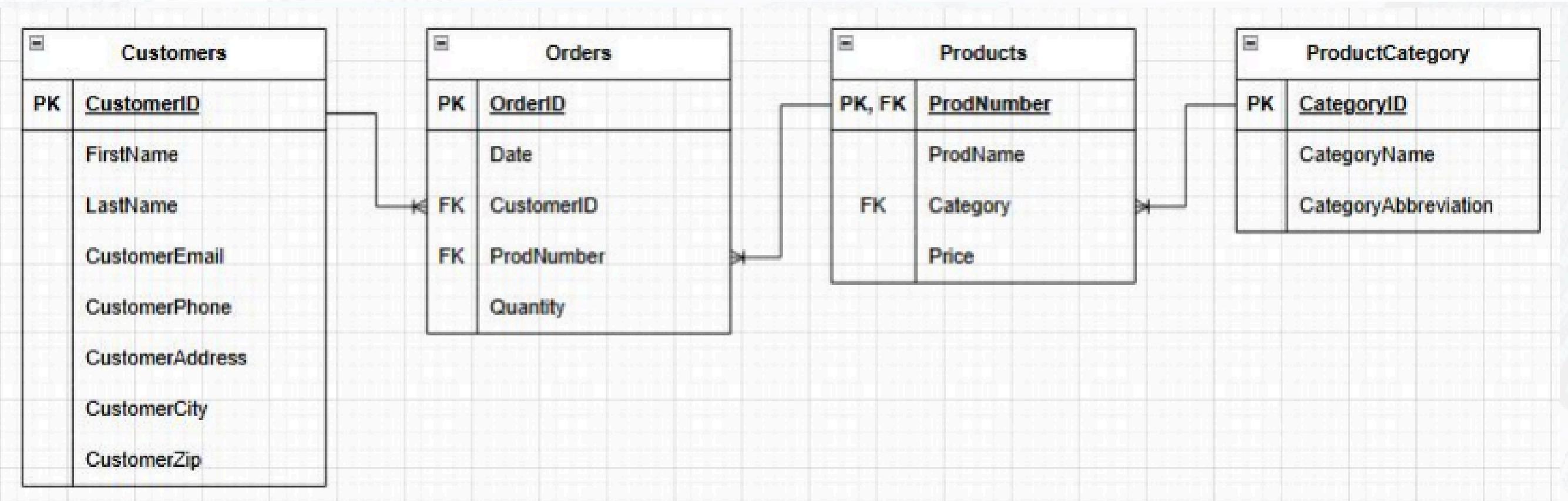
## 2. Orders – Products (ProdNumber)

- Tabel Orders juga memiliki atribut ProdNumber sebagai **foreign key** yang mengacu pada ProdNumber di tabel Products. Relasi ini bersifat **Many-to-One**, karena satu produk dapat muncul dalam banyak pesanan.

## 3. Products – ProductCategory (CategoryID)

- Tabel Products memiliki atribut CategoryID sebagai **foreign key** yang mengacu pada CategoryID di tabel ProductCategory. Relasi ini bersifat **Many-to-One**, karena banyak produk dapat termasuk dalam satu kategori.

# Relationship Antar Tabel



# Table Master (Query CTE, RIGHT JOIN dan LEFT JOIN)

```
1 WITH
2     master_table AS (
3         SELECT
4             O.Date AS order_date,
5             PC.CategoryName AS category_name,
6             P.ProdName AS product_name,
7             P.Price AS product_price,
8             O.Quantity AS order_qty,
9             (P.Price * O.Quantity) AS total_sales,
10            C.CustomerEmail AS cust_email,
11            C.CustomerCity AS cust_city
12        FROM
13            `big-bison-462208-i7.rakamin.customers` AS C
14        RIGHT JOIN `big-bison-462208-i7.rakamin.orders` AS O ON C.CustomerID = O.CustomerID
15        LEFT JOIN `big-bison-462208-i7.rakamin.products` AS P ON O.ProdNumber = P.ProdNumber
16        RIGHT JOIN `big-bison-462208-i7.rakamin.productcategory` AS PC ON P.Category = PC.CategoryID
17    )
18
19 SELECT * FROM master_table ORDER BY master_table.order_date;
```

# Hasil Query Table Master

- Hasil berupa dataset baru

| Row | order_date | category_name   | product_name            | product_price | order_qty | total_sales | cust_email                                                    | cust_city        |
|-----|------------|-----------------|-------------------------|---------------|-----------|-------------|---------------------------------------------------------------|------------------|
| 1   | 2020-01-01 | Drone Kits      | BYOD-220                | 6900          | 1         | 6900        | edew@nba.com#mailto:edew@...                                  | Honolulu         |
| 2   | 2020-01-01 | eBooks          | Polar Robots            | 2399          | 2         | 4798        | fvaslerqt@comsenz.com#mail...                                 | Jackson          |
| 3   | 2020-01-01 | eBooks          | SCARA Robots            | 1950          | 5         | 9750        | llespercx@com.com#mailto:le...                                | Des Moines       |
| 4   | 2020-01-01 | eBooks          | Spherical Robots        | 1675          | 5         | 8375        | lfromonte9@de.vu#mailto:lfrom...                              | Birmingham       |
| 5   | 2020-01-01 | Robots          | RWW-75 Robot            | 88300         | 3         | 264900      | tmckernot@tinyurl.com#mailto:...                              | Katy             |
| 6   | 2020-01-01 | Training Videos | Drone Video Techniques  | 3799          | 6         | 22794       | gstiggersdd@eventbrite.com#mailto:gstiggersdd@eventbrite.com# | Saint Petersburg |
| 7   | 2020-01-02 | Blueprints      | Ladybug Robot Blueprint | 1200          | 2         | 2400        | akingaby78@deviantart.com#m...                                | West Palm Beach  |

# Visualisasi Data di Looker Studio

## Sales Analytics Dashboard

Comprehensive sales performance overview

Total Quantity

11.654

Product Type Categories

7

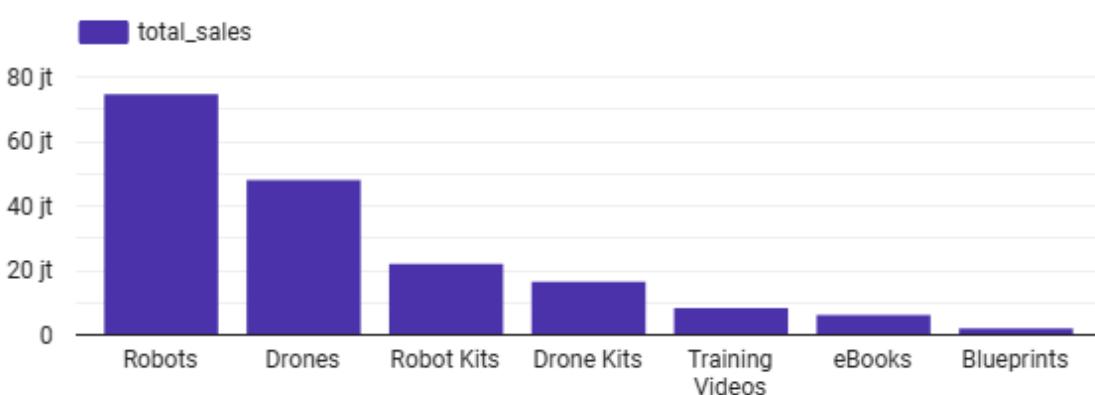
Total Sales

175.475.057

Cities

361

Sales by Category

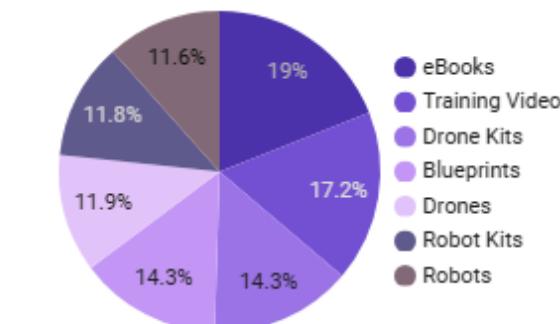


Sales by City and Order Quantity

|    | cust_city   | total_sales | order_qty |
|----|-------------|-------------|-----------|
| 1. | Washington  | 5.538.194   | 308       |
| 2. | Houston     | 3.376.149   | 249       |
| 3. | Sacramento  | 3.338.020   | 153       |
| 4. | San Diego   | 2.922.859   | 203       |
| 5. | Albany      | 2.540.588   | 109       |
| 6. | Springfield | 2.506.065   | 149       |
| 7. | Miami       | 2.483.345   | 138       |

1 - 100 / 361 < >

Quantity by Category



Top 5 Categories by Sales

| category_name      | total_sales |
|--------------------|-------------|
| 1. Robots          | 74.350.500  |
| 2. Drones          | 47.744.700  |
| 3. Robot Kits      | 21.643.700  |
| 4. Drone Kits      | 16.124.250  |
| 5. Training Videos | 8.071.615   |
| 6. eBooks          | 5.896.841   |

1 - 7 / 7 < >

Top 5 Categories by Quantity

| category_name      | order_qty |
|--------------------|-----------|
| 1. eBooks          | 3.123     |
| 2. Training Videos | 2.081     |
| 3. Blueprints      | 1.618     |
| 4. Drone Kits      | 1.515     |
| 5. Drones          | 1.227     |
| 6. Robots          | 1.053     |
| 7. Robot Kits      | 1.037     |

1 - 7 / 7 < >

Visualisasi tersebut terdiri atas:

1. Total keseluruhan sales
2. Total keseluruhan sales berdasarkan kategori produk
3. Total keseluruhan qty berdasarkan kategori produk
4. Total sales berdasarkan kota
5. Total qty berdasarkan kota
6. Top 5 kategori produk yang paling tinggi salesnya
7. Top 5 kategori produk yang paling tinggi qtynya

Cek Dashboard [disini](#)

# Rekomendasi untuk Meningkatkan Penjualan

## 1. Upselling & Bundling Produk

- Target: Produk dengan kuantitas tinggi tetapi nilai jual rendah (eBooks, Training Videos).
- Strategi: Buat bundling dengan produk bernilai tinggi seperti Robot Kits atau Drone Kits.
- Contoh: "Beli Robot Kit, Gratis eBook Tutorial!"

## 2. Optimalisasi Penjualan di Kota Potensial

- Target Kota: Washington, Houston, Sacramento.
- Strategi:
  - Fokuskan promosi lokal di kota-kota dengan penjualan tinggi.
  - Tambahkan program loyalitas (diskon member, cashback) di kota dengan order quantity tinggi.

## 3. Promosi Kategori Rendah Penjualan

- Target: Blueprints dan eBooks (penjualan sangat rendah).
- Strategi: Tawarkan diskon, giveaway, atau jadikan produk free trial (untuk eBooks).
- Pertimbangkan apakah produk ini perlu di-revamp (isi, tampilan, relevansi) atau digantikan.

## 4. Data Mining Preferensi Pelanggan

- Gunakan data transaksi detail (seperti kategori produk, kota, frekuensi pembelian) untuk:
  - Membuat model prediksi pembelian (recommendation engine).
  - Menentukan kategori produk yang disukai di masing-masing kota.

## 5. Evaluasi Harga Produk

- Produk Robots menjual sedikit tapi dengan harga tinggi. Evaluasi apakah penurunan harga sedikit dapat meningkatkan kuantitas secara signifikan (price elasticity analysis).

# Links

1. Github : [M. Cita Prasetya Agam](#)
2. [BigQuery\\_](#)
3. [Video Presentasi](#)

# Thank You

