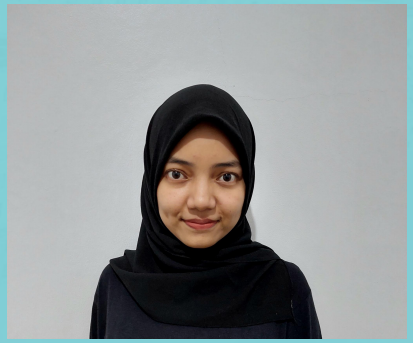
Rakamin Academy X Bank Muamalat

Final Task

Business Intelligence Analyst Virtual Internship Program

Presented by
Rizca Zahra



Rizca Zahra

A data analyst specializing in Fast-Moving Consumer Goods (FMCG) analysis, I bring extensive experience in data querying and collaborating with stakeholders to implement impactful data-driven solutions. Proficient in SQL, Python, and Metabase. I excel in extracting insights from complex datasets and translating them into actionable strategies.

My achievements include being honored as The Most Outstanding Student and receiving The Best Student Award for my final project during my tenure in a Data Science Bootcamp. These recognitions underscore my dedication to excellence and my commitment to leveraging data to drive innovation and success.

Rakamin Academy

Insert Your Experience

Bank Muamalat
Project-Based Intern: Business Intelligence
November 5, 2023 - December 4, 2023

CrediBook
Data Analyst
September 2022 - June 2023

ID/X Partners
Data Scientist Internship
July, 2022 - August 2022

Case Study 1

Identify the respective primary keys in the four sales datasets:

1. Primary key for the Customer table:
2. Primary key for the Products table:
3. Primary key for the Orders table:
4. Primary key for the ProductCategory table:

Dataset:
https://drive.google.com/file/d/1RwsBQ1FriNfz6qiq0V5nD7gF7jO81To3/view

Answer

A primary key is a unique identifier within a database table that uniquely identifies each record or row in that table. It ensures that each entry in the table is distinct and serves as a reference point for relational database systems to establish relationships between different tables.

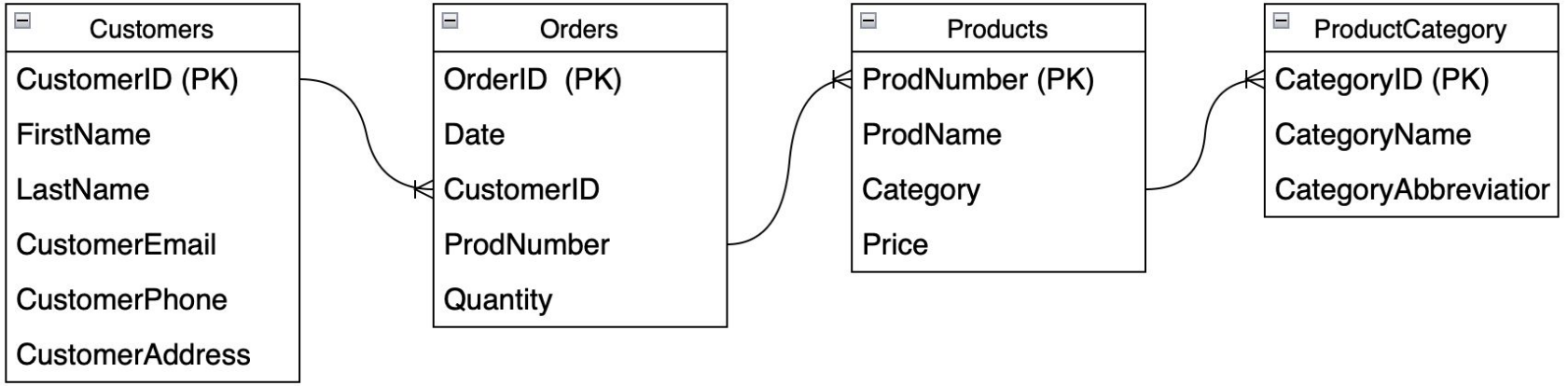
1. Primary key tabel Customer : CustomerID
2. Primary key tabel Products : ProdNumber
3. Primary key tabel Orders : OrderID
4. Primary key tabel ProductCategory : CategoryID

Case Study 2

Determine the relationships among the four tables.

Dataset: https://drive.google.com/file/d/1RwsBQ1FriNfz6qiq0V5nD7gF7jO81To3/view

Answer



One to Many

Case Study 3

Create a master table containing information:

- CustomerEmail (cust_email)
- CustomerCity (cust_city)
- OrderDate (order_date)
- OrderQty (order_qty)
- ProductName (product_name)
- ProductPrice (product_price)
- ProductCategoryName (category_name)
- TotalSales (total_sales)

Dataset: https://drive.google.com/file/d/1RwsBQ1FriNfz6qiq0V5nD7gF7jO81To3/view

Answer

Rakamin Academy

```sql
SELECT  TO_DATE(o.OrderDate, 'DD/MM/YYYY') AS order_date,
        pc.CategoryName AS category_name,
        p.ProdName AS product_name,
        REPLACE(p.Price, ',', '.')::DECIMAL AS product_price,
        o.Quantity AS order_qty,
        SUM(o.Quantity * REPLACE(p.Price, ',', '.')::DECIMAL) AS total_sales,
        c.CustomerEmail AS cust_email,
        c.CustomerCity AS cust_city
FROM customers c
JOIN orders o ON c.CustomerID = o.CustomerID
JOIN products p ON o.ProdNumber = p.ProdNumber
JOIN product_category pc ON p.CategoryID::VARCHAR = pc.CategoryID -- Type cast CategoryID to VARCHAR for the join
GROUP BY 1,2,3,4,5,7,8
ORDER BY TO_DATE(o.OrderDate, 'DD/MM/YYYY');
```

Data Output | Messages | Notifications

	order_date date	category_name character varying (50)	product_name character varying (100)	product_price numeric	order_qty integer	total_sales numeric	cust_email character varying (100)	cust_city character varying (50)
1	2020-01-01	Drone Kits	BYOD-220	69	1	69	edew@nba.com#mailto:edew@nba.com#	Honolulu
2	2020-01-01	Robots	RWW-75 Robot	883	3	2649	tmckernot@tinyurl.com#mailto:tmckernot@tinyurl.co…	Katy
3	2020-01-01	Training Videos	Drone Video Techniques	37.99	6	227.94	gstiggersdd@eventbrite.com#mailto:gstiggersdd@ev…	Saint Petersburg
4	2020-01-01	eBooks	Polar Robots	23.99	2	47.98	fvaslerqt@comsenz.com#mailto:fvaslerqt@comsenz.…	Jackson
5	2020-01-01	eBooks	SCARA Robots	19.5	5	97.5	llespercx@com.com#mailto:llespercx@com.com#	Des Moines
6	2020-01-01	eBooks	Spherical Robots	16.75	5	83.75	lfromonte9@de.vu#mailto:lfromonte9@de.vu#	Birmingham
7	2020-01-02	Blueprints	Ladybug Robot Blueprint	12	2	24	akingaby78@deviantart.com#mailto:akingaby78@devi…	West Palm Beach
8	2020-01-02	Drone Kits	BYOD-100	54	5	270	jzellick84@ustream.tv#mailto:jzellick84@ustream.tv#	Washington
9	2020-01-02	Drones	DTE-QFN20 Drone	250	2	500	jcolthurstgu@cbsnews.com#mailto:jcolthurstgu@cbs…	Sacramento
10	2020-01-02	Robot Kits	BYOR-2640S	189	2	378	aguiongo@behance.net#mailto:aguiongo@behance.n…	Houston

Total rows: 1000 of 3339 | Query complete 00:00:00.065 | Ln 1, Col 1

Case Study 4

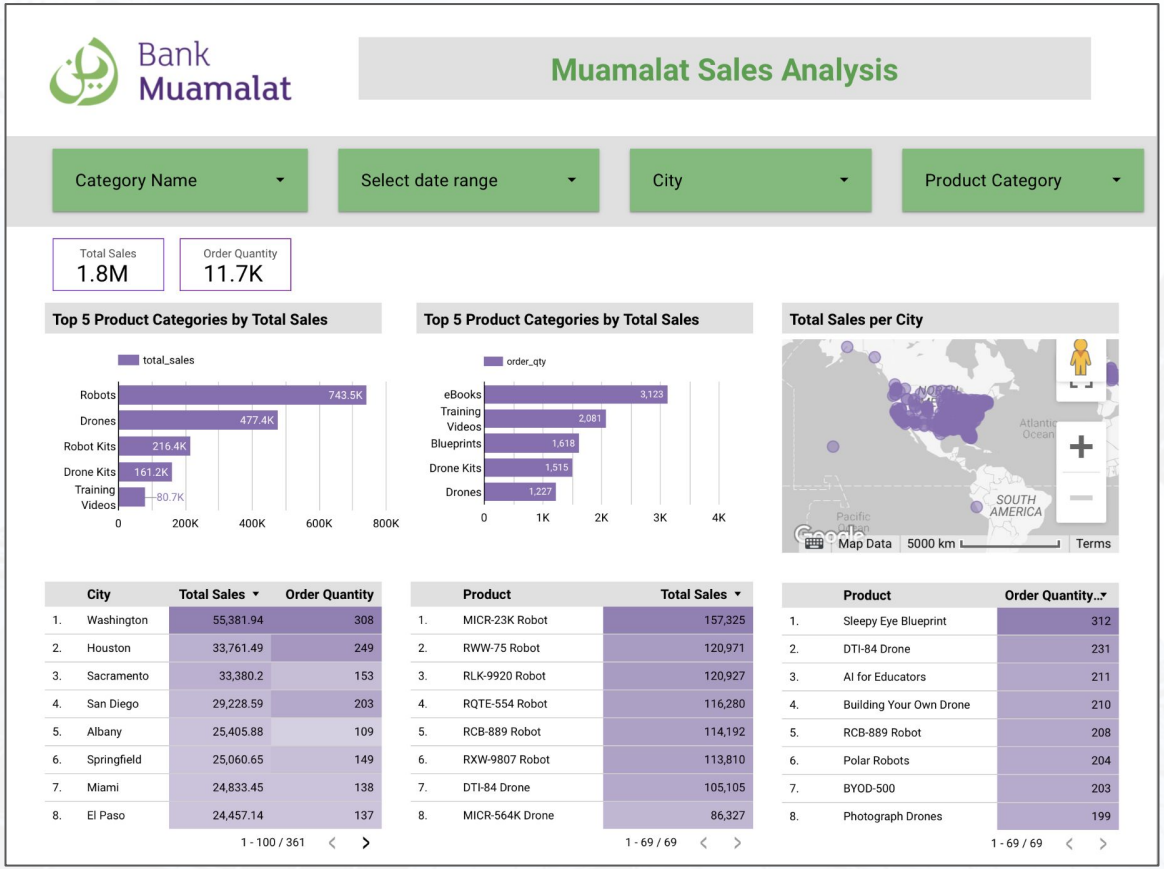
From the resulting table created in question number 3, utilize Looker Studio to create visualizations displaying the sales data. The visualizations must include at least:

- Total overall sales
- Total overall sales by product category
- Total overall quantity by product category
- Total sales by city
- Total quantity by city
- Top 5 product categories with the highest sales
- Top 5 product categories with the highest quantity

Dataset: https://drive.google.com/file/d/1RwsBQ1FriNfz6qiq0V5nD7qF7jO81To3/view

Muamalat Sales Analysis & Visualization

Rakamin Academy



Looker Studio Link: https://lookerstudio.google.com/reporting/2edf0169-6bf7-4caa-80f0-1d2538c183f0/page/TgujD/edit

Case Study 5

As a BI analyst, what recommendations can you propose to maintain or increase sales using the existing detailed transaction table?

Dataset: https://drive.google.com/file/d/1RwsBQ1FriNfz6qiq0V5nD7gF7jO81To3/view

Recommendation

Based on the sales analysis, the following recommendations are proposed:

1. Implement cross-selling promotions between high-selling products, such as the MICR-23K Robot and the Cat Robot Blueprint, to enhance sales of less popular products.
2. Expand marketing efforts by targeting areas with substantial customer presence, such as Washington (89), Houston (73), and San Diego (56), and replicate successful marketing strategies in areas with limited customer presence, including Newport News, Irving, Waterloo, Palmdale, Panama City, and others where the customer count is only one.
3. Conduct a comprehensive customer satisfaction survey to gain insights into customer preferences, allowing Muamalat teams to identify areas of improvement and refine their offerings to better align with customer needs.
4. Initiate in-depth research on Recency, Frequency, and Monetary (RFM) analysis to segment customers effectively, allowing for tailored marketing strategies and personalized customer experiences.

Rakamin Academy

Github Link:

https://github.com/rizcazahra/Business-Intelligence-Analyst-Virtual-Internship-Program

Thank You

X

Logo Company