Rakamin Academy X Bank Muamalat

Bank Muamalat Business Intelligence Analyst

Virtual Internship Experience

Presented by
Muhammad Hadi Dermawan

About Me

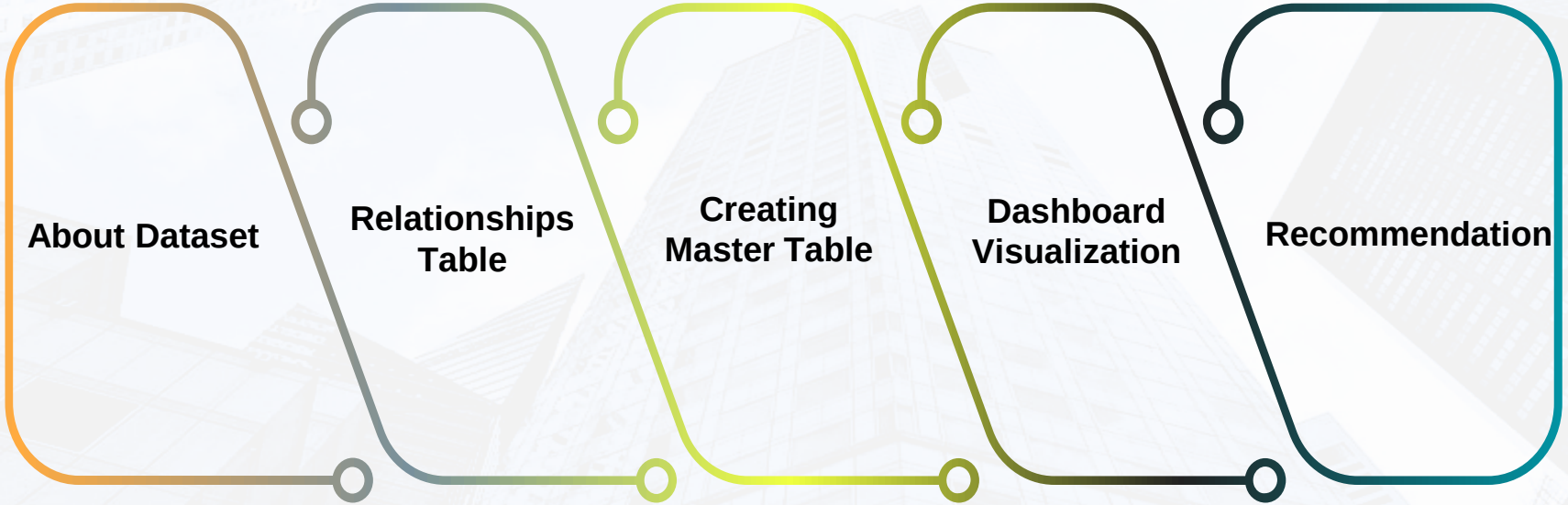
Passionate about unlocking insights from data! As a data enthusiast, I thrive on transforming raw information into meaningful strategies. Experienced data analyst skilled in extracting actionable intelligence using SQL, Python for data visualization, and model creation. Proficient in designing and implementing data-driven solutions to drive business success.

https://www.linkedin.com/in/hadidermawan/

dermawanhadi34@gmail.com

https://github.com/mhadidermawan

Outline


About Dataset
Relationships Table
Creating Master Table
Dashboard Visualization
Recommendation

About Dataset

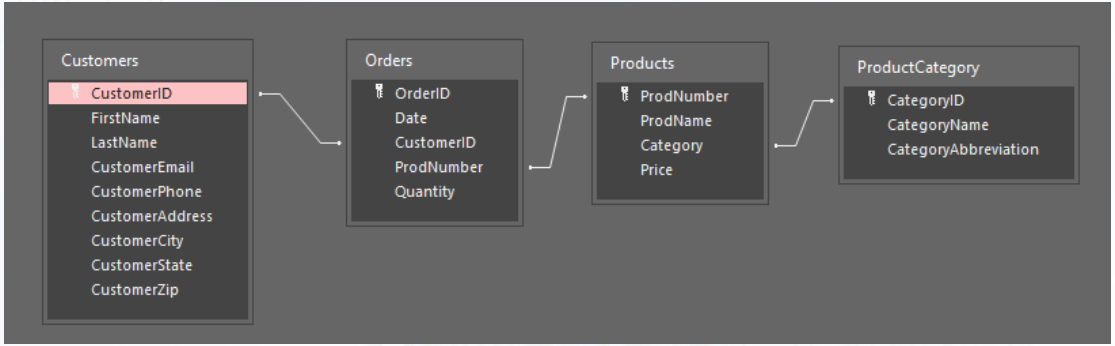
This dataset provides 4 tables that will be used to build a **Sales Dashboard** which provides details about **orders, customers in each city, products and product categories** in the period **1 January 2020 to 31 December 2021.**

Determine Primary Key

A primary key is a **special relational database table column** (or combination of columns) designated to **uniquely** identify each table record. A primary key is **used as a unique identifier** to quickly parse data within the table. **A table cannot have more than one primary key** (technopedia). The following is the primary key for each table.

- Primary key Customer Table : CustomerID
- Primary key Products Table : ProdNumber
- Primary key Orders : OrderID
- Primary key ProductCatergory Table : CategoryID

Relationships Table



A table relationship works by **matching data in key fields**, often a field with the same name in both tables. In most cases, these matching fields are the **primary key from one table**, which provides a **unique identifier** for each record, and a **foreign key in the other table**. In this dataset the relationship between each table is

- Customers.CustomerID = Orders.CustomerID with **one to many** relationship
- Orders.ProdNumber = Producsts.ProdNumber with **many to one** relationship
- Products.Category = ProductCategory.CategoryID with **many to one** relationship

Creating Master Table

The purpose of creating this master table is to be used as a data source that will be **visualized on the dashboard by combining 4 tables** using queries on **Google BigQuery** on the available dataset with the following features

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

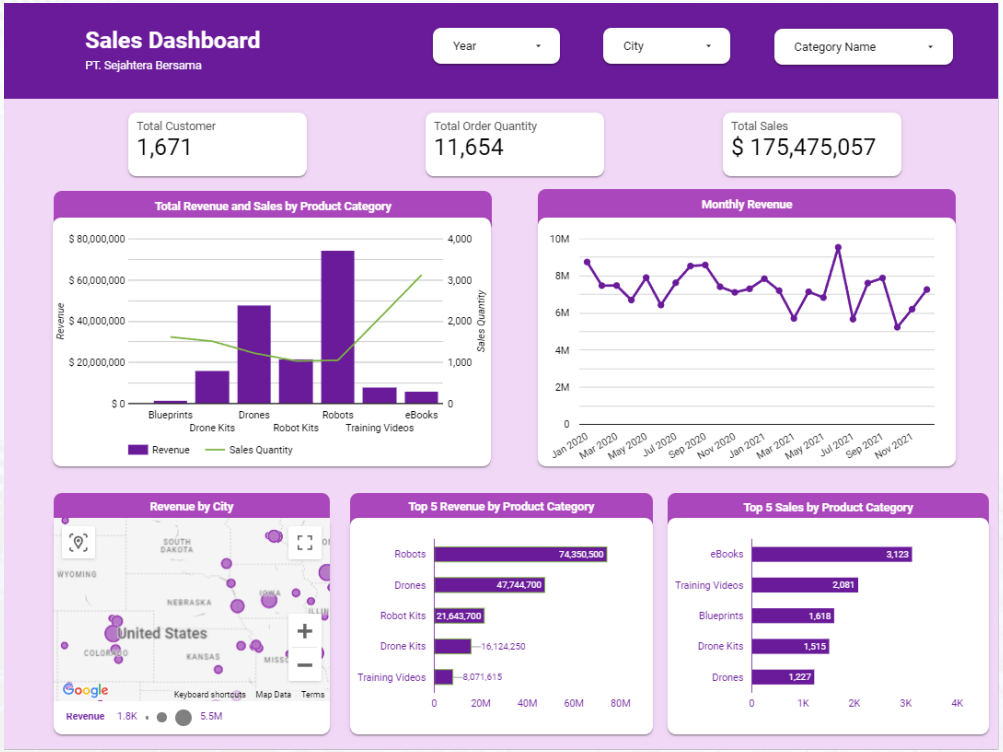
```sql
WITH MasterTable AS (
    SELECT  orders.OrderDate AS order_date,
            category.CategoryName AS category_name,
            products.ProdName AS product_name,
            products.Price AS product_price,
            orders.Quantity AS order_qty,
            (orders.Quantity * products.Price) AS total_sales,
            customers.CustomerEmail AS cust_email,
            customers.CustomerCity AS cust_city
    FROM `bank-muamalat-414803.Final_Projects.Orders` orders
    LEFT JOIN `bank-muamalat-414803.Final_Projects.customers` customers
    ON customers.CustomerID = orders.CustomerID
    LEFT JOIN `bank-muamalat-414803.Final_Projects.Products` products
    ON products.ProdNumber = orders.ProdNumber
    LEFT JOIN `bank-muamalat-414803.Final_Projects.ProductCategory` category
    ON products.Category = category.CategoryID
    ORDER BY 1
)

SELECT * FROM MasterTable;
```

Queries Result

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#mailt...	Jackson
3	2020-01-01	eBooks	SCARA Robots	1950	5	9750	llespercx@com.com#mailto:lle...	Des Moines
4	2020-01-01	eBooks	Spherical Robots	1675	5	8375	lfromonte9@de.vu#mailto:lfro...	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#...	West Palm Beach
8	2020-01-02	Drone Kits	BYOD-100	5400	5	27000	jzellick84@ustream.tv#mailto:j...	Washington
9	2020-01-02	Drones	DTE-QFN20 Drone	25000	2	50000	jcolthurstgu@cbsnews.com#m...	Sacramento
10	2020-01-02	eBooks	Fixed Wing Drones	1550	3	4650	ohalbardv@booking.com#mail...	Birmingham
11	2020-01-02	Robot Kits	BYOR-2640S	18900	2	37800	aguiongo@behance.net#mailt...	Houston
12	2020-01-02	Robot Kits	BYOR-2640S	18900	2	37800	gmirrlees4v@state.tx.us#mailt...	Washington
13	2020-01-02	Robot Kits	BYOR-3000	21400	2	42800	croylede@dot.gov#mailto:croyl...	Virginia Beach
14	2020-01-02	Training Videos	Drone Video Techniques	3799	2	7598	lgatenbyel@quantcast.com#m...	Des Moines

Results per page: 50 1 – 50 of 3339

Dashboard



[Dashboard Link]

Recommendation

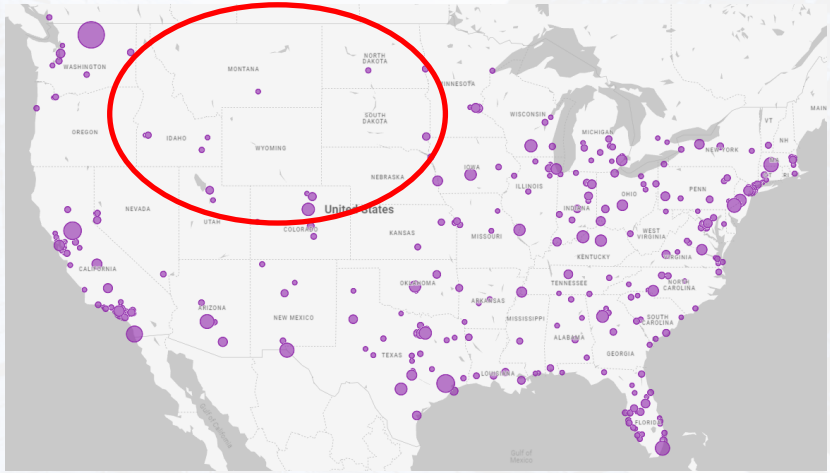
We can **expanding product offerings** in the Great Plains region, encompassing **Montana, Idaho, Wyoming, South Dakota, and Nebraska**, requires careful consideration of the **local climate, demographics, and specific needs of the population**. Given the relatively low sales volume in these states, it's essential to tailor the product selection to align with the unique characteristics of the area.

- Outdoor Equipment and Camping Gear:

Considering the vast expanses of wilderness and outdoor activities popular in the region, there may be a high demand for quality camping equipment, hiking gear, outdoor clothing, and camping essentials.

- Agricultural and Farming Products:

Given the prevalence of farming and ranching in certain parts of the region, offering agricultural equipment, animal feed, and farming tools could be a lucrative venture. Catering to the specific needs of local farmers is crucial.



Recommendation

Despite the robotics category experiencing the **lowest sales**, it has managed to **generate high revenue**, indicating a significant opportunity for **increased sales**, particularly in cities where purchases are currently limited.

For an effective strategy:

- **Market Analysis**:

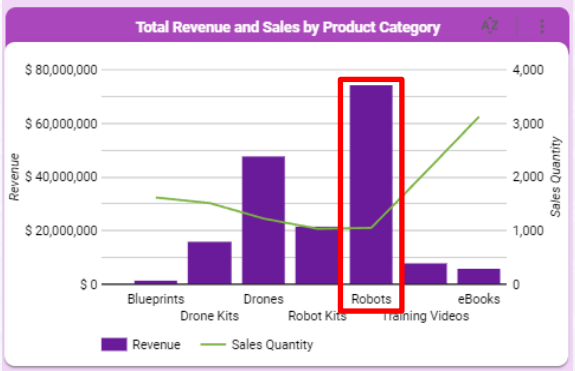
Conduct an in-depth market analysis to **gain insights into trends and customer preferences in regions** with lower sales. This understanding will guide strategic adjustments in both marketing and sales approaches.

- **Customer Education**:

Initiate an informative campaign **to enrich customer knowledge about the advantages and features of robot products**. A better-informed customer base is likely to show increased interest and trust in the offerings.

- **Product Innovation**:

Evaluate the product portfolio and contemplate the introduction of innovations or enhancements that align more closely with specific market needs. Keep a keen eye on **emerging technologies and evolving customer demands to maintain a competitive edge**.



Rakamin Academy

Bank Muamalat

Click This Link Below for :

Final Project Presentation

Thank You

Rakamin Academy X Bank Muamalat