DQLab Data Analysis Project for Retail

Sales Performance Report

DQLab Store

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DATA ANALYSIS PROJECT FOR RETAIL : SALES PERFORMANCE REPORT

WHAT IS THE PROBLEM IN THIS CASE ?

The dataset used contains transactions from 2009 to 2012 with a total of 5500 raw data, including **order status which is divided into finished orders, returned orders, and canceled orders**.
The dataset that has been provided and will be used in this project contains the following data.

- OrderID
- Order Status
- Customers
- Order Date
- Order Quantity
- Sales
- Discount %
- Discount
- Product Category
- Product Sub-Category

The table name that will be used in this project is **dqlab_sales_store**

TOOLS

SQL

PROJECT PROGRESSION STAGES

To complete the project, we will type the code that needs to be submitted to check the answer is right or wrong. From the data that has been given, the management of the DQLab store wants to know:

1A. Overall performance of DQLab Store from 2009 - 2012 for the number of orders and total sales orders finished

1B. Overall performance of DQLab by product subcategory to be compared between 2011 and 2012

2A. The effectiveness and efficiency of the promotions carried out so far, by calculating the burn rate of the promotions carried out overall by year

2B. The effectiveness and efficiency of the promotions carried out so far, by calculating the burn rate of the overall promotions based on the sub-category

After seeing the results of the analysis in Sub Chapters 1 and 2, further analysis is carried out on DQLab customers. Analysis from the customer side using metrics:
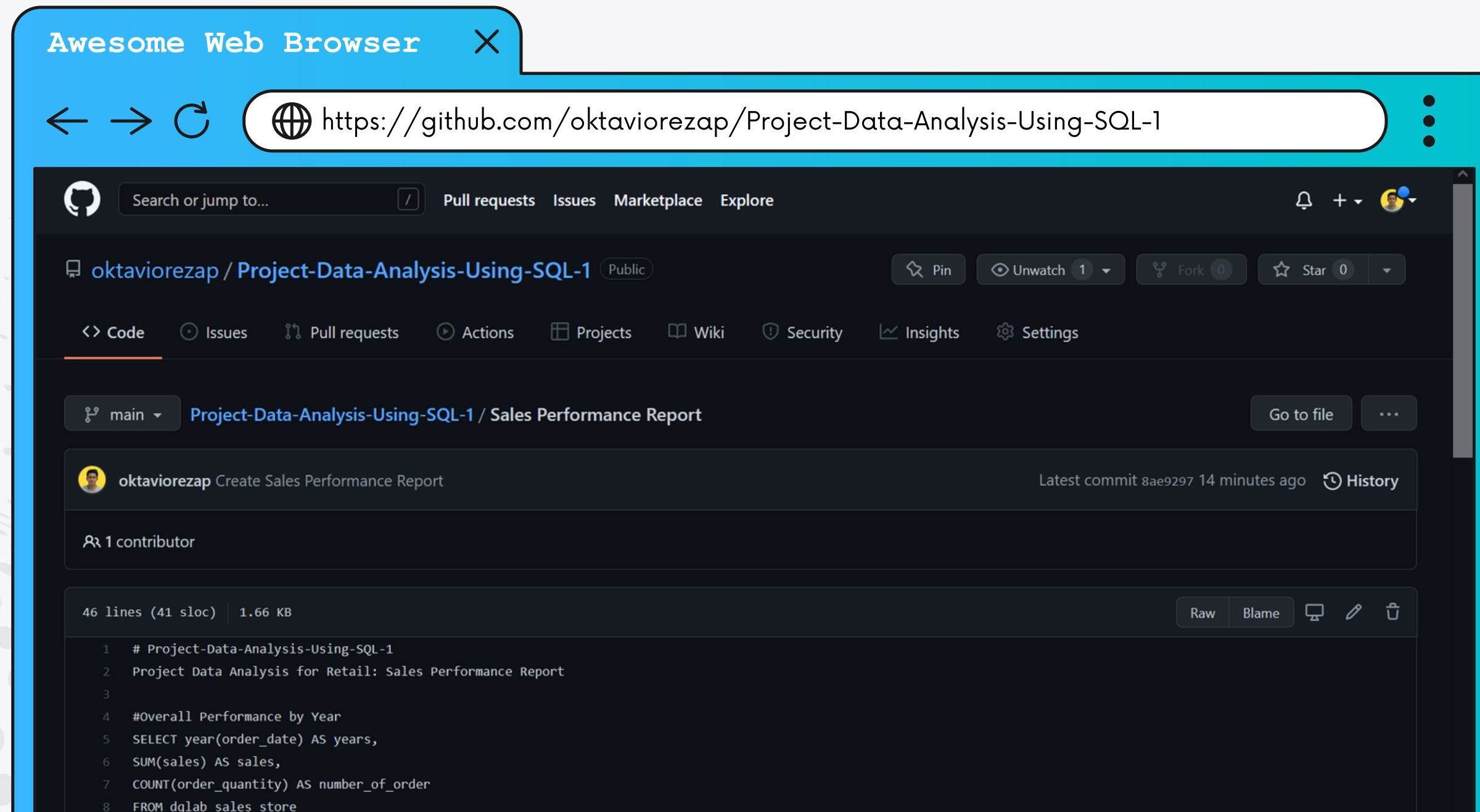
3A. Analysis of customers every year

3B. Analysis of the number of new customers each year

3C. Cohort to find out the number of customer retention in 2009

HOW CAN I ANALYZE THE DATA?

You can open my GitHub at this link below :
https://github.com/oktaviorezap/Project-Data-Analysis-Using-SQL-1/blob/main/Sales%20Performance%20Report

OVERALL PERFORMANCE BY YEAR

```
+--------+------------+-----------------+
| years  | sales      | number_of_order |
+--------+------------+-----------------+
|   2009 | 4613872681 |            1244 |
|   2010 | 4059100607 |            1248 |
|   2011 | 4112036186 |            1178 |
|   2012 | 4482983158 |            1254 |
+--------+------------+-----------------+
```

- The highest number of order happened in 2012 with 1,254 orders and the lowest number of order happened in 2011 with 1,178 orders

- The highest sales happened in 2009 with total sales of Rp 4,613,872,681 and the lowest sales happened in 2010 with total sales of Rp 4,059,100,607

- The sales trend shows an inconsistent trend that is from 2009-2010 the sales make a low trend and from 2011-2012 the sales make a high trend. Likewise, the number of order trend shows an inconsistent trend that is from 2009-2010 number of order shows a high trend and then the trend begin to low in 2011 and make high trend again in 2012

OVERALL PERFORMANCE BY PRODUCT SUB CATEGORY

years	product_sub_category	sales
2011	Chairs & Chairmats	622962720
2011	Office Machines	545856280
2011	Tables	505875008
2011	Copiers and Fax	404074080
2011	Telephones and Communication	392194658
2011	Binders and Binder Accessories	298023200
2011	Storage & Organization	285991820
2011	Appliances	272630020
2011	Computer Peripherals	232677960
2011	Bookcases	169304620
2011	Office Furnishings	160471500
2011	Paper	111080380
2011	Pens & Art Supplies	43093800
2011	Envelopes	36463900
2011	Labels	15607780
2011	Scissors, Rulers and Trimmers	12638340
2011	Rubber Bands	3090120
2012	Office Machines	811427140
2012	Chairs & Chairmats	654168740
2012	Telephones and Communication	422287514
2012	Tables	388993784
2012	Binders and Binder Accessories	363879200
2012	Storage & Organization	356714140
2012	Computer Peripherals	308014340
2012	Copiers and Fax	292489800
2012	Appliances	266131100
2012	Office Furnishings	178927480
2012	Bookcases	159984680
2012	Paper	126896160
2012	Envelopes	58629280
2012	Pens & Art Supplies	43818480
2012	Scissors, Rulers and Trimmers	36776400
2012	Labels	10007040
2012	Rubber Bands	3837880

The data consist Overall Performance by Product Sub Category from 2011-2012

- **The Chair & Chairmats was the highest sales in 2011 with Rp 622,962,720** and **The Rubber Bands was the lowest sales in 2011 with Rp 3,090,120**

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- **The Office Machines was the highest sales in 2012 with Rp 811,427,140** and **The Rubber Bands was the lowest sales as same as sales performance in 2011 with Rp 3,837,880**

- **The Average of Total Sales in 2011 Rp 449,516,952**. The Product Sub Category in 2011 that Above the Average were Tables, Office Machines and Chairs & Chairmats.

- **The Average of Total Sales in 2012 Rp 263,704,892**. The Product Sub Category in 2012 that Above the Average were Office Machines, Chairs & Chairmats, Telephone and Communication, Tables, Binders and Binder Accessories, Storage & Organization, Computer Peripherals, Copiers, and Fax and Appliances.

PROMOTION EFFECTIVENESS AND EFFICIENCY BY YEARS

years	sales	promotion_value	burn_rate_percentage
2009	4613872681	214330327	4.65
2010	4059100607	197506939	4.87
2011	4112036186	214611556	5.22
2012	4482983158	225867642	5.04

The effectiveness and efficiency of the promotions carried out will be analyzed based on the Burn Rate, namely by comparing the total value of the promotions issued to the total sales obtained. DQLab expects the burn rate to remain at a maximum of 4.5%

Formula for burn rate: (total discount / total sales) * 100

The data shows that the burn rate percentage in 3 years are higher than 4.5%. The conclusion is the store allocated more funds for promotion that didn't give succesfull impact.

CUSTOMERS TRANSACTIONS PER YEAR

```
+--------+----------------------+
| years  | number_of_customer   |
+--------+----------------------+
|  2009  |                  585 |
|  2010  |                  593 |
|  2011  |                  581 |
|  2012  |                  594 |
+--------+----------------------+
```

The Data shows that the growth of customer not inconsistent by year to year. In 2009 and 2010 the growth of customer show the high trend. Then, in 2011 the growth of customer shows low trend. In 2012 the growth of customer shows high trend again.