SQL Projects

Project Data Analysis for Retail: Sales Performance Report
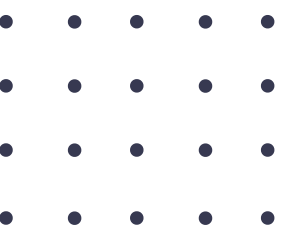
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DQLab

Dataset Brief

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 %
- Discounts
- Product Category
- Product Sub-Category

Project Completion Instructions

From the data that has been provided, the management of the DQLab store wants to know:

A. DQLab Store Overall Performance
1. Overall performance of DQLab Store from 2009 - 2012 for the number of orders and total sales orders finished
2. Overall performance of DQLab by subcategory product which will be compared between 2011 and 2012

B. DQLab Store Promotion Effectiveness and Efficiency
3. The effectiveness and efficiency of promotions carried out so far, by calculating the burn rate of promotions carried out overall by year
4. The effectiveness and efficiency of promotions carried out so far, by calculating the burn rate of promotions carried out overall based on sub-categories

C. Customer Analytics
5. Analysis of customers every year

Query and Result

1. Overall Performance by Year

Query

```sql
SELECT
    YEAR(order_date) AS years,
    SUM(sales) AS sales,
    COUNT(order_quantity) AS number_of_order
FROM dqlab_sales_store
WHERE order_status = 'Order Finished'
GROUP BY years
ORDER BY years;
```

Result

```
+-------+------------+-----------------+
| years | sales      | number_of_order |
+-------+------------+-----------------+
|  2009 | 4613872681 |            1244 |
|  2010 | 4059100607 |            1248 |
|  2011 | 4112036186 |            1178 |
|  2012 | 4482983158 |            1254 |
+-------+------------+-----------------+
```
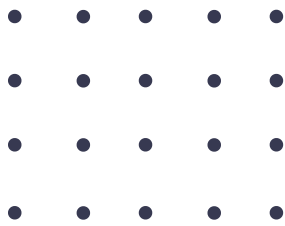
2. Overall Performance by Product Sub Category

Query

```sql
SELECT
    YEAR(order_date) AS years,
    product_sub_category,
    SUM(sales) AS sales
FROM dqlab_sales_Store
WHERE order_status = 'order finished'
AND YEAR(order_date) > 2010
GROUP BY YEAR(order_date),
        product_sub_category
ORDER BY YEAR(order_date), sales DESC;
```

Result

```
+-------+----------------------------------+-----------+
| 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 |
```

3. Promotion Effectiveness and Efficiency by Years

Query

```sql
SELECT
    YEAR(order_date) AS years,
    SUM(sales) AS sales,
    SUM(discount_value) AS promotion_value,
    ROUND((SUM(discount_value) / SUM(sales)) * 100, 2) AS burn_rate_percentage
FROM dqlab_sales_store
WHERE order_status = 'order finished'
GROUP BY years
ORDER BY years;
```

Result

```
+-------+------------+-----------------+----------------------+
| 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 |
+-------+------------+-----------------+----------------------+
```

4. Promotion Effectiveness and Efficiency by Product Sub Category

Query

```sql
SELECT
    YEAR(order_date) AS years,
    product_sub_category,
    product_category,
    SUM(sales) AS sales,
    SUM(discount_value) AS promotion_value,
    ROUND((SUM(discount_value) / SUM(sales)) * 100, 2) AS burn_rate_percentage
FROM dqlab_sales_store
WHERE order_status = 'order finished'
AND YEAR(order_date) > 2011
GROUP BY years,
        product_sub_category,
        product_category
ORDER BY sales DESC;
```

Result

years	product_sub_category	product_category	sales	promotion_value	burn_rate_percentage
2012	Office Machines	Technology	811427140	46616695	5.75
2012	Chairs & Chairmats	Furniture	654168740	26623882	4.07
2012	Telephones and Communication	Technology	422287514	18800188	4.45
2012	Tables	Furniture	388993784	16348689	4.2
2012	Binders and Binder Accessories	Office Supplies	363879200	22338980	6.14
2012	Storage & Organization	Office Supplies	356714140	18802166	5.27
2012	Computer Peripherals	Technology	308014340	15333293	4.98
2012	Copiers and Fax	Technology	292489800	14530870	4.97
2012	Appliances	Office Supplies	266131100	14393300	5.41
2012	Office Furnishings	Furniture	178927480	8233849	4.6

5. Customers Transactions per Year

Query

```sql
SELECT
    YEAR(order_date) AS years,
    COUNT(DISTINCT customer) AS number_of_customer
FROM dqlab_sales_store
WHERE order_status = 'Order Finished'
GROUP BY years
ORDER BY years;
```

Result

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

Thank you!

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DQLab