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Online Sales Dataset - Popular Marketplace Data

Source:

- https://www.kaggle.com/datasets/shreyanshverma27/online-sales-dataset-popular-marketplace-data

About Dataset

- **Order ID:** Unique identifier for each sales order.

- **Date:** Date of the sales transaction.

- **Category:** Broad category of the product sold (e.g., Electronics, Home Appliances, Clothing, Books, Beauty Products, Sports).

- **Product Name:** Specific name or model of the product sold.

- **Quantity:** Number of units of the product sold in the transaction.

- **Unit Price:** Price of one unit of the product.

- **Total Price:** Total revenue generated from the sales transaction (Quantity * Unit Price).

- **Region:** Geographic region where the transaction occurred (e.g., North America, Europe, Asia).

- **Payment Method:** Method used for payment (e.g., Credit Card, PayPal, Debit Card).

Analysis

1. Analyze sales trends over time to identify seasonal patterns

2. Explore the popularity of different product categories across regions.

3. Investigate the impact of payment methods on sales volume or revenue.

4. Identify top-selling products within each category

5. Evaluate the performance of specific products or c*ategories in different regions to tailor marketing campaigns accordingly*

Change in the dataset

- A new column date_sale has been added and the insert from the Date column has been converted from TEXT to DATE.

- Column Date has been dropped.

- Date_month column has been addes.

Time period

```
SELECT
MIN(date_sale)AS the_first_date,
MAX(date_sale) AS the_last_date
FROM `sales data`;
```

	the_first_date	the_last_date
▶	2024-01-01	2024-08-27

Regions

```
SELECT DISTINCT Region
FROM `sales data`;
```

	Region
▶	North America
	Europe
	Asia

Product Category

```
SELECT DISTINCT `Product Category`
FROM `sales data`;
```

	Product Category
▶	Electronics
	Home Appliances
	Clothing
	Books
	Beauty Products
	Sports

Payment Method

```
SELECT DISTINCT `Payment Method`
FROM `sales data`;
```

	Payment Method
▶	Credit Card
	PayPal
	Debit Card

1. Analyze sales trends over time to identify seasonal patterns

```sql
WITH product_sales AS (
SELECT
date_month,
`Product Category`,
ROUND(SUM(`Total Revenue`),2) AS total_revenue,
SUM(`Units Sold`) AS total_units_sold
FROM
`sales data`
GROUP BY
date_month, `Product Category`
),
ranked_products AS (
SELECT
date_month,
`Product Category`,
total_units_sold,
total_revenue,
ROW_NUMBER() OVER (PARTITION BY date_month ORDER BY total_units_sold DESC) AS ranking
FROM
product_sales
)
SELECT
date_month,
`Product Category`,
total_units_sold,
total_revenue
FROM
ranked_products
WHERE
ranking = 1;
```

date_month	Product Category	total_units_sold	total_revenue
April	Clothing	20	769.8
August	Clothing	12	769.91
February	Clothing	19	1284.81
January	Sports	17	1579.83
July	Clothing	14	1055.88
June	Clothing	15	519.85
March	Sports	16	1609.84
May	Clothing	12	764.93

For most months, the best-selling product Category is *clothing* with th exception of Months: January and March, where category *sport* is the best-seler.

2. Explore the popularity of different product categories across regions.

```sql
WITH a AS (
SELECT
Region,
`Product Category`,
ROUND(SUM(`Total Revenue`), 2) AS total_revenue,
SUM(`Units Sold`) AS total_units_sold
FROM
`sales data`
GROUP BY
Region, `Product Category`
),
region_ranking AS (
SELECT
Region,
`Product Category`,
total_revenue,
total_units_sold,
ROW_NUMBER() OVER (PARTITION BY Region ORDER BY total_units_sold DESC) AS ranking
FROM a
)
SELECT
Region,
`Product Category`,
total_revenue,
total_units_sold
FROM
region_ranking
WHERE
ranking = 1;
```

The most popular product for each regions :

Region	Product Category	total_revenue	total_units_sold
Asia	Clothing	7864.88	122
Europe	Home Appliances	18646.16	59
North America	Electronics	34982.41	66

3. Investigate the impact of payment methods on sales volume or revenue.

```sql
SELECT
`Payment Method`,
ROUND(SUM(`Total Revenue`), 2) AS total_revenue,
SUM(`Units Sold`) AS total_units_sold
FROM `sales data`
GROUP BY `Payment Method`
ORDER BY total_revenue DESC ;
```

Payment Method	total_revenue	total_units_sold
Credit Card	50585.39	215
PayPal	21189.06	100
Debit Card	7864.88	122

Largest impact on revenue and sales volume
from credit cards.

4. Identify top-selling products within each category

```sql
SELECT
`Product Category`,
`Product Name`,
total_revenue,
total_units_sold
FROM (
SELECT
`Product Category`,
`Product Name`,
ROUND(SUM(`Total Revenue`), 2) AS total_revenue,
SUM(`Units Sold`) AS total_units_sold,
ROW_NUMBER() OVER(PARTITION BY `Product Category` ORDER BY SUM(`Units Sold`) DESC) AS ranking
FROM
`sales data`
GROUP BY
`Product Category`, `Product Name`
) x
WHERE
ranking = 1;
```

Product Category	Product Name	total_revenue	total_units_sold
Beauty Products	CeraVe Hydrating Facial Cleanser	29.98	2
Books	The Silent Patient by Alex Michaelides	134.95	5
Clothing	Nike Air Force 1	539.94	6
Electronics	Amazon Echo Dot (4th Gen)	199.96	4
Home Appliances	Eufy RoboVac 11S	659.97	3
Sports	Spalding NBA Street Basketball	149.94	6

5. Evaluate the performance of specific products or categories in different regions to tailor marketing campaigns accordingly.

```sql
SELECT
Region,
`Product Category`,
`Product Name`,
SUM(`Units Sold`) AS total_units_sold,
ROUND(SUM(`Total Revenue`), 2) AS total_revenue
FROM
`sales data`
GROUP BY
Region, `Product Category`, `Product Name`
ORDER BY
Region, `Product Category`, total_units_sold DESC;
```

[There is only code because the output table is too long to present here.]

Conclusions:

- For most months, the best-selling product Category is *clothing* with th exception of months: January and March, where category *sport* is the best-seler.

- Largest impact on revenue and sales volume from credit cards.

- The most popular product for each region: *clothing* for Asia, *home appliances* for Europe, *electronics* for North America

- Top-selling products within each category:

Product Category	Product Name
Beauty Products	CeraVe Hydrating Facial Cleanser
Books	The Silent Patient by Alex Michaelides
Clothing	Nike Air Force 1
Electronics	Amazon Echo Dot (4th Gen)
Home Appliances	Eufy RoboVac 11S
Sports	Spalding NBA Street Basketball