



Project: Insights Find from sales Data using SQL

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Project Overview

- Analyze online sales data to uncover insights and trends.
- Utilize SQL for data manipulation and analysis to ensure accurate results.
- Conduct thorough data cleaning.
- Perform exploratory data analysis (EDA) for a comprehensive understanding of the sales data.

Project Objectives

- **Understand:**
 - **Sales trends across different product categories and regions.**
- **Identify:**
 - **Top-performing products and sales patterns.**
- **Provide:**
 - **Actionable insights for business decision-making**

Dataset Description:

- The dataset consists of the following columns:
- Transaction ID
- Date
- Product Category
- Product Name
- Units Sold
- Unit Price
- Total Revenue
- Region
- Payment Method

Data Source

The data was obtained from the company's sales database, which includes transactions across different regions and product categories.

Insight 1: Total Revenue per Product Category

```
SELECT product_category, SUM(total_revenue) AS total_revenue  
FROM online_data  
GROUP BY product_category;
```

	product_category	total_revenue
▶	Electronics	34982.40969085693
	Home Appliances	18646.15990447998
	Clothing	8128.9300537109375
	Books	1861.9300003051758
	Beauty Products	2621.8999977111816
	Sports	14326.519886016846



Insight 2: Average Unit Price per Product Category

```
SELECT product_category, AVG(unit_price) AS avg_unit_price  
FROM online_data  
GROUP BY product_category;
```

	product_category	avg_unit_price
▶	Electronics	691.591494846344
	Home Appliances	320.185498714447
	Clothing	67.53650093078613
	Books	16.15299983024597
	Beauty Products	61.62299990653992
	Sports	261.28399868011473



Insight 3: Top 5 Products by Units Sold

```
SELECT product_name, SUM(units_sold) AS total_units_sold  
FROM online_data  
GROUP BY product_name  
ORDER BY total_units_sold DESC  
LIMIT 5;
```

	product_name	total_units_sold
▶	Hanes ComfortSoft T-Shirt	10
	The Catcher in the Rye by J.D. Salinger	7
	Spalding NBA Street Basketball	6
	Gap Essential Crewneck T-Shirt	6
	Nike Air Force 1	6



Insight 4: Total Revenue per Region

```
SELECT region, SUM(total_revenue) AS total_revenue  
FROM online_data  
GROUP BY region;
```

	region	total_revenue
▶	North America	36844.33969116211
	Europe	21268.059902191162
	Asia	22455.449939727783



Insight 5: Number of Transactions per Payment Method

```
SELECT payment_method, COUNT(*) AS transaction_count  
FROM online_data  
GROUP BY payment_method;
```

	payment_method	transaction_count
▶	Credit Card	120
	PayPal	80
	Debit Card	40



Insight 6: Total Units Sold per Region

```
SELECT region, SUM(units_sold) AS total_units_sold  
FROM online_data  
GROUP BY region;
```

	region	total_units_sold
▶	North America	180
	Europe	105
	Asia	233



Insight 7: Monthly Sales Trend

```
SELECT DATE_FORMAT(date, '%Y-%m') AS month, SUM(total_revenue) AS total_revenue  
FROM online_data  
GROUP BY month  
ORDER BY month;
```

	month	total_revenue
▶	2024-01	14548.319875717163
	2024-02	10803.369953155518
	2024-03	12849.239894866943
	2024-04	12451.68991470337
	2024-05	8455.489954948425
	2024-06	7384.549964904785
	2024-07	6797.079990386963
	2024-08	7278.109984397888



Insight 8: Top 5 Customers by Revenue

```
SELECT transaction_id, total_revenue  
FROM online_data  
ORDER BY total_revenue DESC  
LIMIT 5;
```

	transaction_id	total_revenue
▶	10103	3899.99
	10086	2599.98
	10007	2499.99
	10217	2399
	10001	1999.98
*	NULL	NULL



Insight 9: Average Discount Percentage per Product Category

```
SELECT product_category, AVG(units_sold) AS avg_units_sold  
FROM online_data  
GROUP BY product_category;
```

	product_category	avg_units_sold
▶	Electronics	1.6500
	Home Appliances	1.4750
	Clothing	3.6250
	Books	2.8500
	Beauty Products	1.1500
	Sports	2.2000



Insight 10: Most Common Payment Method

```
SELECT payment_method, COUNT(*) AS usage_count  
FROM online_data  
GROUP BY payment_method  
ORDER BY usage_count DESC  
LIMIT 1;
```

	payment_method	usage_count
▶	Credit Card	120



Insight 11: Revenue per Product Name

```
SELECT product_name, SUM(total_revenue) AS total_revenue  
FROM online_data  
GROUP BY product_name  
ORDER BY total_revenue DESC;
```

	product_name	total_revenue
▶	Canon EOS R5 Camera	3899.989990234375
	LG OLED TV	2599.97998046875
	MacBook Pro 16-inch	2499.989990234375
	Apple MacBook Pro 16-inch	2399
	iPhone 14 Pro	1999.97998046875
	Peloton Bike	1895
	HP Spectre x360 Laptop	1599.989990234375
	Roomba i7+	1599.97998046875
	Garmin Forerunner 945	1599.969970703125
	Samsung Odyssey G9 Gaming Monitor	1499.989990234375
	Samsung Galaxy Tab S8	1499.97998046875



Insight 12: Units Sold by Date

```
SELECT date, SUM(units_sold) AS total_units_sold  
FROM online_data  
GROUP BY date  
ORDER BY date;
```

	date	total_units_sold
▶	2024-01-01	2
	2024-01-02	1
	2024-01-03	3
	2024-01-04	4
	2024-01-05	1
	2024-01-06	5
	2024-01-07	1
	2024-01-08	2
	2024-01-09	6
	2024-01-10	2
	2024-01-11	1



Insight 13: Average Units Sold per Transaction

```
SELECT AVG(units_sold) AS avg_units_sold  
FROM online_data;
```

	avg_units_sold
▶	2.1583

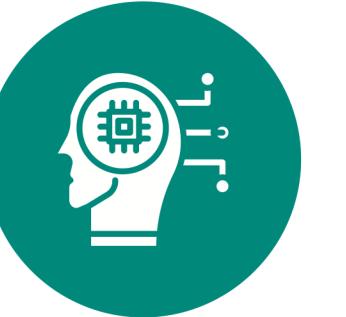
Insight 14: Total Revenue by Payment Method

```
SELECT payment_method, SUM(total_revenue) AS total_revenue  
FROM online_data  
GROUP BY payment_method;
```

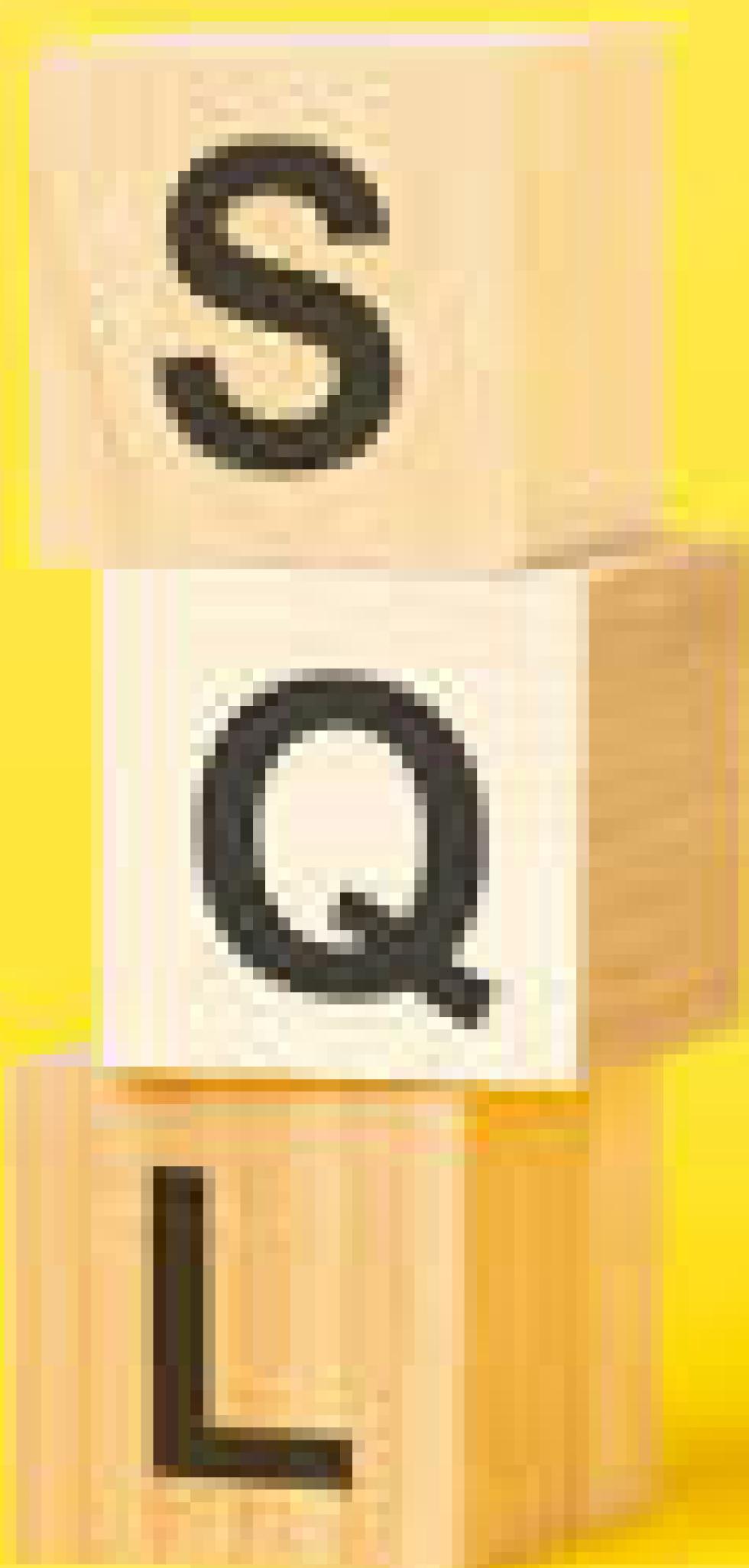
	payment_method	total_revenue
▶	Credit Card	51170.859577178955
	PayPal	21268.059902191162
	Debit Card	8128.9300537109375



Prediction



- High revenue in specific categories
- High revenue in specific regions.
- Most common payment methods.
- Monthly sales trends.
- High-revenue transactions often linked to repeat customers.



Thank You !

