

# Sales Data Analysis Report

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## Executive Summary

This report presents an analysis of sales data to identify key business insights such as top-selling products, best-performing cities, peak shopping hours, and monthly sales trends. The findings show which products and cities contribute the most to sales revenue and highlight the busiest hours for orders. These insights can help the business optimize inventory management, marketing strategies, and staffing.

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## Introduction

The dataset analyzed contains sales transactions with fields including Product, Quantity Ordered, Sales Amount, City, Hour of Purchase, and Month. The primary goal of this analysis is to extract actionable insights that can assist in decision-making to increase sales and improve customer satisfaction.

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## Methodology

Using SQL queries on the sales database, various aggregate functions were employed such as SUM(), COUNT(), and AVG() combined with GROUP BY clauses to summarize sales data by product, city, hour, and month. The queries focus on total sales, units sold, order counts, and average sales values.

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## Analysis and Findings

### 1. Total Sales Revenue

#### Query:

```
select round(sum(sales),2) as [total sales]
from [Sales Data];
```

#### Result:

The total sales revenue generated over the analyzed period was 34492035.8

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### 2. Top 5 Best-Selling Products by Units Sold

#### Query:

```
SELECT TOP 5 product, SUM (Quantity_Ordered) AS [total units]
FROM [Sales Data]
GROUP BY product ORDER BY [total units] DESC;
```

**Result:**

The top five products by quantity sold are:

AAA Batteries (4-pack)	31017
AA Batteries (4-pack)	27635
USB-C Charging Cable	23975
Lightning Charging Cable	23217
Wired Headphones	20557

**Insight:** These products are the main revenue drivers and should be prioritized for inventory and promotions.

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**3. Top 3 Cities by Sales Revenue****Query:**

```
select top 3 city, round(sum(sales),2) as [total sum]
from [Sales Data]
group by city
order by [total sum] desc ;
```

**Result:**

The cities contributing the highest sales revenue are:

San Francisco	8262203.87
Los Angeles	5452570.77
New York City	4664317.41

**Insight:** Marketing and logistics efforts can be focused on these cities for maximum impact.

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**4. Peak Shopping Hours****Query:**

```
SELECT Hour, COUNT(*) AS [Number Of Orders]
FROM [Sales Data]
GROUP BY Hour
ORDER BY [Number Of Orders] DESC;
```

**Result:**

The busiest shopping hours are between **11:00 AM and 7:00 PM (Hour 11 to Hour 19)**, indicating the time period when customer activity is highest.

**Insight:** Staffing and promotional activities should be aligned with these peak times to maximize sales and service quality.

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## 5. Month with Highest Sales

**Query:**

```
select top 1 Month ,sum(sales )as [total sale]
from [Sales Data]
group by Month
order by [total sale] desc ;
```

**Result:**

**Month 12** recorded the highest sales, likely due to seasonality or promotional events.

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**Insight:** Planning special campaigns and stock availability in this month can further increase revenue.

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## 6. Average Sales per City

**Query:**

```
select city ,round (avg(sales),2) as [avg sale ]
from [Sales Data]
group by city
ORDER BY [avg sale ] DESC;
```

**Result:**

Average sales per order vary by city, with **City San Francisco** having the highest average sale per transaction.

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## 7. Total Orders by Month

**Query:**

```
SELECT MONTH, COUNT (Quantity_Ordered) AS [total order]
FROM [Sales Data]
GROUP BY Month
ORDER BY [total order] DESC;
```

**Result:**

The month with the highest number of orders is **Month 12** , indicating strong customer demand.

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**8. Top 5 Hours for Orders in San Francisco****Query:**

```
select top 5 hour, count (Quantity_Ordered) as [total order in night]
from [Sales Data]
where city='San Francisco'
group by hour
order by [total order in night] desc ;
```

**Result:**

The top 5 peak hours in San Francisco for orders are: 19:00, 12:00, 18:00, 11:00, 20:00.

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**Conclusion**

The analysis highlights key areas to focus for business growth:

- Prioritize top-selling products for stock and promotions.
- Concentrate marketing in cities generating the highest sales revenue.
- Align staffing and promotional campaigns with peak shopping hours.
- Prepare for higher demand in the months identified with peak sales.

By leveraging these insights, the business can improve customer satisfaction, optimize inventory, and increase overall sales performance.