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**Data Analysis Summary**  
*(Using SUM, SUMIF, SUMIFS, COUNT, AVERAGE, AVERAGEIF, Pivot Table, and Dashboard)*

# 1. Introduction

This report provides a detailed analysis of sales data using various Excel functions such as SUM, SUMIF, SUMIFS, COUNT, AVERAGE, AVERAGEIF, along with Pivot Tables and a dashboard.

The dataset contains the following key columns: Customer ID, Quantity, Unit Price, and Total Price (calculated as Quantity × Unit Price).

The analysis focuses on understanding total sales, customer-specific trends, and high-value transactions. Additionally, it highlights sales distribution through visualizations in the dashboard.

# 2. Basic Calculations

**Total Sales (SUM)**

The SUM function is used to calculate the total quantity of items sold and the total revenue from sales.

* **Formula**: =SUM(Quantity)
* **Result**: The total quantity sold is **[insert total quantity]**.

**Total Revenue (SUM of Total Price)**

* **Formula**: =SUM(Quantity × Unit Price)
* **Result**: The total revenue is **[insert total revenue]**.

# 3. Conditional Calculations

**Sales for Specific Customers (SUMIF)**

The SUMIF function is used to calculate the total sales for specific customers.

* **Formula**: =SUMIF(Customer\_ID, "Customer123", Total\_Price)
* **Result**: The total sales for Customer123 is **[insert result]**.

**Sales for Multiple Conditions (SUMIFS)**

SUMIFS helps calculate the total sales based on multiple criteria, such as a specific customer and sales greater than a threshold.

* **Formula**: =SUMIFS(Total\_Price, Customer\_ID, "Customer123", Total\_Price, ">100")
* **Result**: The total sales for Customer123 with sales greater than $100 is **[insert result]**.

# 4. Count and Average Calculations

**Number of Transactions (COUNT)**

The COUNT function is used to count the total number of sales transactions.

* **Formula**: =COUNT(Total\_Price)
* **Result**: There were **[insert total number of transactions]** transactions.

**Average Sales (AVERAGE)**

The AVERAGE function provides the average revenue per transaction.

* **Formula**: =AVERAGE(Total\_Price)
* **Result**: The average revenue per transaction is **[insert average result]**.

**Average Sales for High-Value Transactions (AVERAGEIF)**

The AVERAGEIF function is used to calculate the average sales amount for transactions over a certain value.

* **Formula**: =AVERAGEIF(Total\_Price, ">100", Total\_Price)
* **Result**: The average sales for transactions over $100 is **[insert result]**.

# 5. Pivot Table Analysis

A Pivot Table was created to summarize sales data by customer. This provides an overview of total sales per customer and helps identify top-performing customers.

* **Fields Used**:
  + **Rows**: Customer ID
  + **Values**: Sum of Total Price
* **Key Insights**:
  + Customer123 has the highest total sales with **[insert amount]**.
  + Customer456 follows with **[insert amount]** in sales.

# 6. Dashboard Overview

A dashboard was created to visualize the overall sales performance, featuring key metrics and visual insights such as:

* **Sales Trend Chart**: A line chart showing sales trends over time.
* **Customer Segmentation**: A pie chart depicting the proportion of sales for each customer.
* **Top Selling Products**: A bar chart displaying the quantity sold per product.

**Key Insights from the Dashboard:**

* **Top Customer**: Customer123 contributes to the majority of sales, accounting for **[insert percentage]** of total revenue.
* **Sales Peak**: Sales peaked during **[insert peak period]**, indicating a high demand during this time.

# 7. Conclusion

This analysis highlights critical insights into customer sales behavior, transaction patterns, and high-value sales. Using advanced Excel functions and a dashboard, we have identified key trends and top customers, which can guide decision-making and strategy.

* **Total Sales**: [Insert Total Sales]
* **Top Customer**: Customer123
* **Average Transaction Value**: [Insert Average Value]

Further actions may include focusing on high-value customers for personalized marketing efforts and adjusting inventory strategies to meet peak demand periods.

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