

# Motorcycle Parts Sales Analysis Report

## ❖ Project Overview

### Objective:

The purpose of this project is to analyze motorcycle parts sales data to uncover trends, customer behavior, and profitability insights. This analysis can help businesses optimize sales strategies and improve decision-making.

### Dataset:

- **sales.csv** - Raw dataset containing **1,000** sales transactions.

### Scope of Analysis:

- Customer segmentation and insights
- Sales performance trends
- Profitability analysis

## ❖ Data Preparation

### Data Cleaning Steps:

- Removed duplicate records.
- Standardized date formats.
- Filled missing values where applicable.
- Converted data types for proper SQL operations.

### Key Transformations:

- Used `STR_TO_DATE()` to convert datetime formats.
- Categorized customers based on purchase frequency.
- Created derived metrics such as total revenue and profit margin.

## ❖ Analysis & Insights

### a) Customer Analysis

- **High-Value Customers:** The highest-spending customer segment is **Wholesale clients**, contributing **₹159,642.33** to total sales.
- **Customer Segmentation:** Customers were segmented based on purchase frequency and spending behavior.

- **Regional Sales Trends:** Sales performance varies by warehouse location.

#### b) Sales Trend Analysis

- **Total Revenue:** The dataset records total sales revenue of **₹289,113.00**.
- **Peak Sales Month:** The highest sales were recorded in **August**, with total revenue of **₹100,245.06**.
- **Best-Selling Product Line:** **Suspension & Traction** generated the most revenue at **₹73,014.21**.

#### c) Profitability Analysis

- **Profit Margins:** Certain product lines contribute significantly to total revenue but may have varied profit margins.
- **Top Warehouse:** The **Central** warehouse generated the highest sales at **₹141,982.88**.
- **Impact of Discounts:** Discount strategies and their impact on sales volume were analysed to optimize pricing strategies.

### ❖ Key Findings & Recommendations

#### Findings:

- **Peak Sales Month:** The highest sales volume was observed in **August**, likely due to seasonal demand.
- **Best-Selling Products:** **Suspension & Traction** parts contributed the most to revenue.
- **High-Value Customers:** **Wholesale clients** account for the largest share of sales.
- **Profitability Trends:** The **Central** warehouse is the most profitable.

#### Recommendations:

- **Inventory Optimization:** Focus on stocking best-selling products like **Suspension & Traction** in high-demand regions.
- **Customer Retention Strategies:** Implement loyalty programs to retain **Wholesale customers**.
- **Profit Maximization:** Adjust discounting strategies to enhance margins on high-performing products.

### ❖ Conclusion

This analysis provides valuable insights into motorcycle parts sales performance. By leveraging these insights, businesses can improve their sales strategies, enhance profitability, and create targeted marketing campaigns for customer retention.