

# SALES ANALYSIS SUMMARY

This eCommerce sales dashboard provides a comprehensive view of sales performance, leveraging key metrics and visualizations to highlight business trends. Built with a focus on data accuracy, clarity, and actionable insights, it uses a combination of charts and KPIs to offer a snapshot of various sales dimensions.

## Overview of Metrics Displayed

- Sum of Amount:**
  - ₹438K (100%)** – This metric represents the total revenue generated from sales. This is a critical KPI to assess the overall financial performance of the eCommerce business.
- Sum of Profit:**
  - ₹37K (~8.4%)** of total sales revenue. The profit margin shows a solid financial outcome, though a deeper dive into product-level profitability could help improve margins.
- Sum of Quantity:**
  - 5,615 units (100%)** – The total number of items sold across all product categories. This metric is important for understanding sales volume.
- Sum of AOV (Average Order Value):**
  - ₹121K** – The average amount spent per order. This metric shows the purchasing behavior of customers and helps assess pricing strategies.

## Breakdown of Key Charts

- Sum of Amount by State:**
  - Maharashtra leads with the highest sales, accounting for **50%** of the total revenue (~₹219K).
  - Madhya Pradesh follows at **30%** (₹131K), while Uttar Pradesh contributes **15%** (₹65K).
  - Delhi generates the least, contributing about **5%** (~₹22K).
  - This geographic segmentation offers valuable insight into regional performance, allowing the business to tailor marketing and operational strategies based on top-performing regions.
- Quantity by Category:**
  - Clothing dominates the sales volume with 63%** of all items sold, indicating a highly popular product category.
  - Electronics make up 21%**, while **Furniture contributes 17%** to the total sales volume.
  - This pie chart helps in understanding the distribution of products and identifying potential opportunities for expanding underperforming categories like Furniture.

### 3. Profit by Month:

- The chart shows a gradual increase in profit from January to July, peaking in **May** with **₹4K** in profit.
- There is a sharp decline in February, showing negative growth (likely due to higher costs or reduced sales), followed by consistent growth in subsequent months.
- The cyclical nature of this data can help the business plan promotions and manage inventory based on seasonal trends.

### 4. Sum of Amount by Customer Name:

- **Top customers like Hameem and Madhavi** contribute around **15%** of total revenue, with other customers like Vinod and Abhishek making up the remaining.
- Hameem alone generated sales worth **₹10K**, showing potential for cultivating loyal, high-spending customers.
- This segmentation by customer helps identify high-value customers for targeted marketing and personalized services.

### 5. Sum of Quantity by Payment Mode:

- **Cash on Delivery (COD) dominates, representing 44%** of the payment methods used by customers, a preference that reflects consumer trust and purchasing behavior in eCommerce.
- **UPI accounts for 21%**, while **Debit Card contributes 12%** of the total transactions. The remaining percentages are spread across other payment modes.
- Understanding this payment distribution can assist the business in optimizing its checkout processes and ensuring customer convenience.

### 6. Profit by Sub-Category:

- **Printers emerge as the most profitable sub-category, contributing ₹5K** in profit.
- **Bookcases and Sarees** follow, with profits of approximately ₹4K and ₹3K, respectively. Other sub-categories, such as **Accessories and Tables**, also contribute, but at a lesser scale.
- By analyzing the profitability of different product types, the business can focus on promoting more profitable sub-categories while assessing the viability of lower-performing ones.

## Data Cleaning and Data Management Details

### 1. Handling Missing and Incomplete Data:

- **Missing Data in Sales and Customer Information:** Missing values were handled using imputation techniques, filling them with median values for numerical data or "Unknown" labels for categorical data.
- **Outlier Detection:** Outliers in profit and sales amounts were identified and corrected to maintain the accuracy of the analysis. Extreme values that skewed the average metrics were carefully reviewed to ensure they weren't errors.

## 2. Data Normalization and Standardization:

- **Uniform Currency Formats:** Sales amounts and average order values were standardized to a single currency format to ensure consistency across all financial metrics.
- **Time Data Processing:** The order date was transformed to extract useful insights by creating monthly and quarterly breakdowns. This was essential for visualizing trends in the "Profit by Month" and "Qtr 1-Qtr 4" filters.

## 3. Categorical Data Management:

- **Product Classification:** Data related to product categories were organized into parent and sub-categories, as seen in the "Quantity by Category" and "Profit by Sub-Category" visualizations. This helped in drawing insights into specific product lines.
- **Payment Mode Grouping:** Data regarding payment methods were grouped to ensure distinct payment modes, like COD, UPI, and debit cards, were correctly represented in the dashboard.

## 4. Data Transformation and Filtering:

- **Segmenting Sales Data by Geography:** The state-wise breakdown of revenue was achieved by filtering data based on state information, allowing insights into regional sales distribution.
- **Customer Segmentation:** Customers were grouped by purchase amounts to show which individuals contributed the most to revenue, highlighting potential leads for customer retention strategies.

## Actionable Insights:

1. **Regional Sales Strategy:** Focus on high-performing states like Maharashtra while addressing the potential in lower-performing areas such as Delhi.
2. **Category Optimization:** Consider expanding the clothing product line due to its high sales volume (63%), while analyzing ways to boost the performance of other categories like Furniture and Electronics.
3. **Customer Loyalty Programs:** High-value customers (e.g., Hameem and Madhavi) represent a significant portion of sales. Targeted loyalty programs or personalized discounts could enhance retention.
4. **Seasonal Promotions:** Monthly profit analysis reveals fluctuations, with a strong peak in May. Consider creating seasonal marketing campaigns to capitalize on these periods.
5. **Payment Mode Optimization:** Since 44% of customers prefer COD, efforts could be made to introduce incentives for digital payment modes to reduce transaction delays and increase convenience.