

# Sales Performance Dashboard – Full Workflow Summary

## Introduction

I'm Ali Muhammad, a data visualization specialist blending analytical precision with creative strategy. With a strong foundation in language, design, and data storytelling, I craft dashboards that speak clearly and perform reliably. I specialize in transforming raw data into actionable insights—whether it's monthly trends, regional performance, or product profitability. My approach is methodical: I clean, validate, and structure data before crafting visuals that balance clarity, aesthetics, and business impact. I'm passionate about accessibility and user-centered design, ensuring every chart is readable, inclusive, and purpose-driven. From troubleshooting RStudio rendering issues to refining layout flow, I iterate until the dashboard feels intuitive and polished. I've built this dashboard to showcase my ability to analyze sales data across multiple dimensions—time, region, category, and product. Each visual is designed with executive presentation in mind, using gradient fills, embedded labels, and consistent formatting. I'm always thinking ahead: how can this dashboard be automated, repurposed, or scaled for real-world decision-making? This project reflects my commitment to clarity, impact, and continuous improvement in data storytelling.

## Step 1: Data Selection

The project began with selecting a comprehensive sales dataset containing key business metrics:

- **Date**
- **Product**
- **Region**
- **Category**
- **Revenue**
- **Profit**
- **Vendor** (optional) This dataset was chosen for its relevance to product-level, regional, and temporal analysis.

## Step 2: Data Cleaning

Using **R** and the **dplyr package**, the data was cleaned to ensure accuracy and consistency:

- Removed missing values (NA) from critical columns like Revenue and Profit
- Trimmed whitespace from categorical fields (e.g., Product, Region)
- Converted Date column to proper date format using lubridate
- Created derived columns like Month, Month\_Num, and Profit\_K for analysis

## Step 3: Data Analysis

The cleaned dataset was grouped and summarized using group\_by() and summarise():

- **Monthly Trends:** Aggregated revenue and profit by month
- **Product Performance:** Identified top products by revenue and profit
- **Regional Analysis:** Compared total revenue and profit across regions
- **Category Breakdown:** Summarized financial performance by product category

All values were scaled to thousands (K) for clarity and presentation.

## Step 4: Data Visualization

Using ggplot2, multiple charts were created with a focus on clarity, accessibility, and business relevance:

### Monthly Profit Trend

- Vertical bar chart showing monthly profit
- Gold bars highlight peak months
- Labels placed above bars for readability

### Product-Wise Profit Analysis

- Horizontal bar chart of top products by profit
- Gradient fill from dark to bright
- Labels placed inside bars with white text

### Total Revenue & Profit by Region

- Two separate horizontal bar charts
- Axis ticks manually set to include 1500K
- Margins adjusted to prevent clipping
- Region order sorted by performance

### Category-Wise Revenue & Profit

- Side-by-side horizontal charts
- Clear comparison across Electronics, Fashion, Home, and Sports
- Consistent layout and font size

## Tools Used

| Task              | Tool/Package                |
|-------------------|-----------------------------|
| Data Cleaning     | readxl, dplyr, lubridate    |
| Data Analysis     | dplyr, mutate, summarise    |
| Visualization     | ggplot2, scales, coord_flip |
| Environment       | RStudio IDE                 |
| Export (optional) | ggsave() for PNG output     |

## Notes

- All charts were rendered separately to avoid overwriting
- Labels were carefully positioned for accessibility
- Axis breaks and plot margins were manually tuned for clarity
- Dashboard is optimized for executive presentation and portfolio showcase

## SUMMARY

This dashboard presents a comprehensive analysis of sales performance across products, regions, categories, and time. It reveals that the **West region consistently leads** in both revenue and profit, followed closely by North and East. **Electronics dominate** category-level revenue and profitability, making them the most lucrative segment. Monthly profit trends show a steady upward trajectory, with **June peaking at 502K** and March being the lowest. Product-wise analysis highlights **Smartwatch and Tablet** as top performers in both revenue and profit.

# SALE DASHBOARD YEAR 2024

**TOTAL UNIT SOLD**

**4474**

**TOTAL REVENUE**

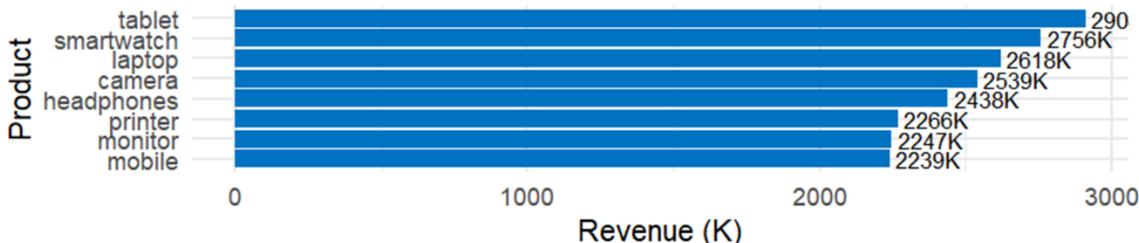
**4646.7K**

**TOTAL PROFIT**

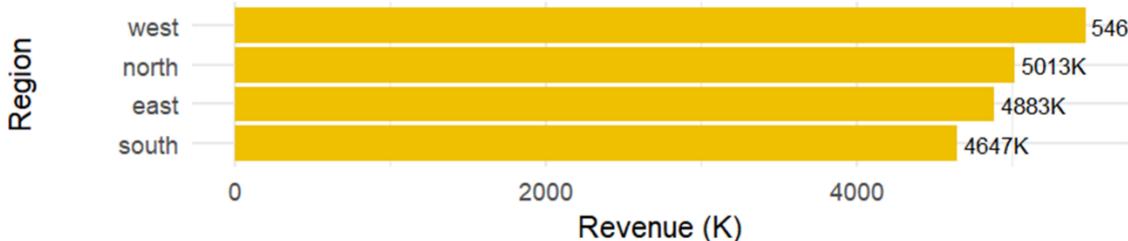
**1188.4K**

## Sales Revenue Dashboard

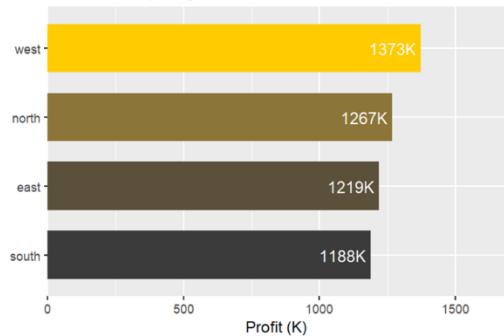
Total Revenue by Product



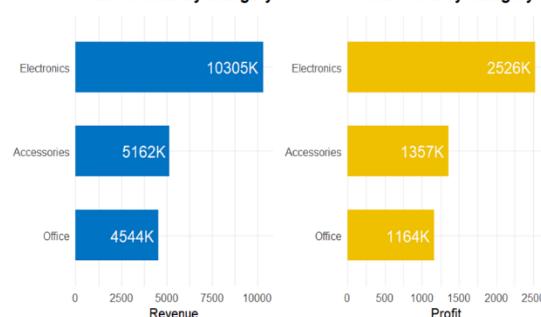
Total Revenue by Region



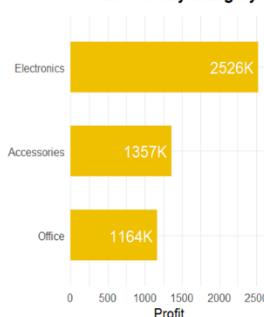
Total Profit by Region



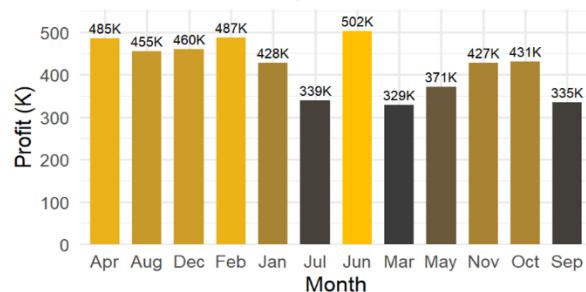
Total Revenue by Category



Total Profit by Category



Monthly Profit Trend



Product-Wise Profit Analysis

