Time series and category charts of electronic store

Faleke Micheal Kayode

2026-02-13

##importing the previously cleaned data for further analysis

```
Retail_sales <- read.csv("~/Retail_sales.csv")
```

##importing neccessary R lib

```
library(tidyverse)
```

```
## Warning: package 'lubridate' was built under R version 4.5.2
```

```
## ── Attaching core tidyverse packages ──────────────────────────────────────── tidyverse 2.
0.0 ──
## ✔ dplyr     1.1.4     ✔ readr     2.1.5
## ✔ forcats   1.0.0     ✔ stringr   1.5.1
## ✔ ggplot2   4.0.0     ✔ tibble    3.3.0
## ✔ lubridate 1.9.4     ✔ tidyr     1.3.1
## ✔ purrr     1.1.0
## ── Conflicts ────────────────────────────────────────────────────────── tidyv
erse_conflicts() ──
## ✖ dplyr::filter() masks stats::filter()
## ✖ dplyr::lag()    masks stats::lag()
## ℹ Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to become err
ors
```

```
library(ggplot2)
library(lubridate)
```

##inspecting the dataset

```
glimpse(Retail_sales)
```

```
## Rows: 1,050
## Columns: 7
## $ ID            <int> 1001, 1002, 1003, 1004, 1005, 1006, 1007, 1008, 1009, 10…
## $ Date          <chr> "2023-02-14", "2023-02-15", "2023-02-16", "2023-02-17", …
## $ Customer_Name <chr> "David", "Eve", "Eve", "David", "Eve", "Alice", "Bob", "…
## $ Product_Label <chr> "Headphones", "Laptop", "Monitor", "Headphones", "Tablet…
## $ Quantity      <int> 3, 3, 2, 3, 3, 1, 3, 3, 3, 1, 2, 2, 2, 2, 3, 2, 1, 1, 1,…
## $ Unit_Price    <int> 350, 200, 350, 350, 350, 200, 500, 350, 200, 350, 200, 2…
## $ Total.Sales   <int> 1050, 600, 700, 1050, 1050, 200, 1500, 1050, 600, 350, 4…
```

```
head(Retail_sales)
```

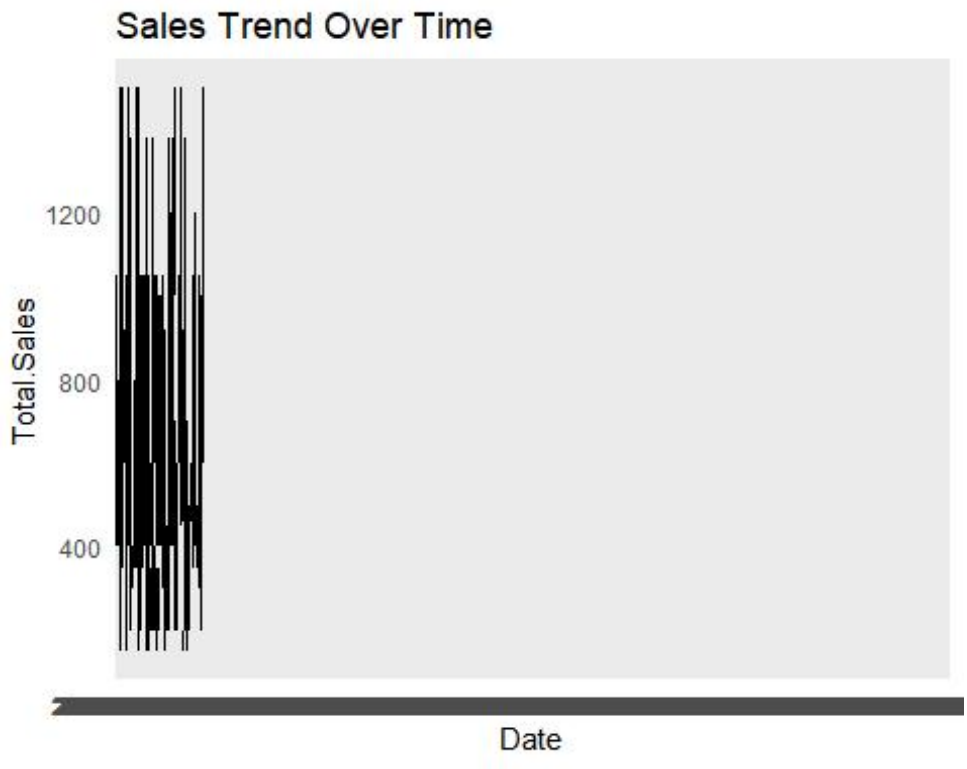
```
##     ID       Date Customer_Name Product_Label Quantity Unit_Price Total.Sales
## 1 1001 2023-02-14         David    Headphones        3        350        1050
## 2 1002 2023-02-15           Eve        Laptop        3        200         600
## 3 1003 2023-02-16           Eve       Monitor        2        350         700
## 4 1004 2023-02-17         David    Headphones        3        350        1050
## 5 1005 2023-02-18           Eve        Tablet        3        350        1050
## 6 1006 2023-02-19         Alice       Monitor        1        200         200
```

```
tail(Retail_sales)
```

```
##        ID       Date Customer_Name Product_Label Quantity Unit_Price
## 1045 2045 2023-05-19       Charlie    Headphones        2        350
## 1046 2046 2023-05-20         David        Phone        3        200
## 1047 2047 2023-05-21           Eve       Tablet        1        350
## 1048 2048 2023-05-22           Bob    Headphones        1        400
## 1049 2049 2023-05-23           Eve    Headphones        3        200
## 1050 2050 2023-05-24       Charlie       Monitor        3        500
##      Total.Sales
## 1045         700
## 1046         600
## 1047         350
## 1048         400
## 1049         600
## 1050        1500
```

##plotting sales over time

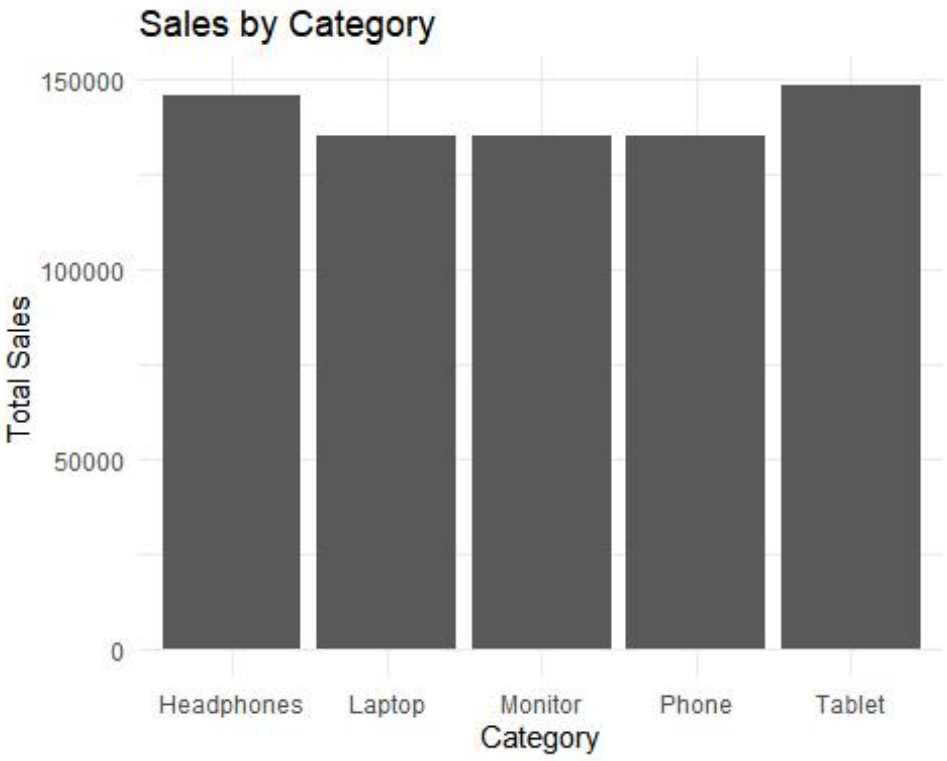
```
ggplot(Retail_sales, aes(x = Date, y = Total.Sales)) +
  geom_line() +
  labs(
    title = "Sales Trend Over Time",
    x = "Date",
    y = "Total.Sales") +
  theme_minimal()
```



##creating a barchart and Use bar charts to compare categories as well as pie charts

```
Retail_sales<- data.frame(
  Category = c("Tablet", "Headphones", "Laptop", "Monitor", "Phone"),
  Sales = c(148330, 145460, 135160, 134830, 134830))


ggplot(Retail_sales, aes(x = Category, y = Sales)) +
  geom_bar(stat = "identity") +
  labs(
    title = "Sales by Category",
    x = "Category",
    y = "Total Sales"
  ) +
  theme_minimal()
```



##creating a pie chart for comparison

```
data_pie <- Retail_sales %>%
  mutate(Share = Sales / sum(Sales))

ggplot(data_pie, aes(x = "", y = Share, fill = Category)) +
  geom_bar(stat = "identity", width = 1) +
  coord_polar("y") +
  labs(
    title = "Sales Share by Category",
    fill = "Category"
  ) +
  theme_void()
```

Sales Share by Category