

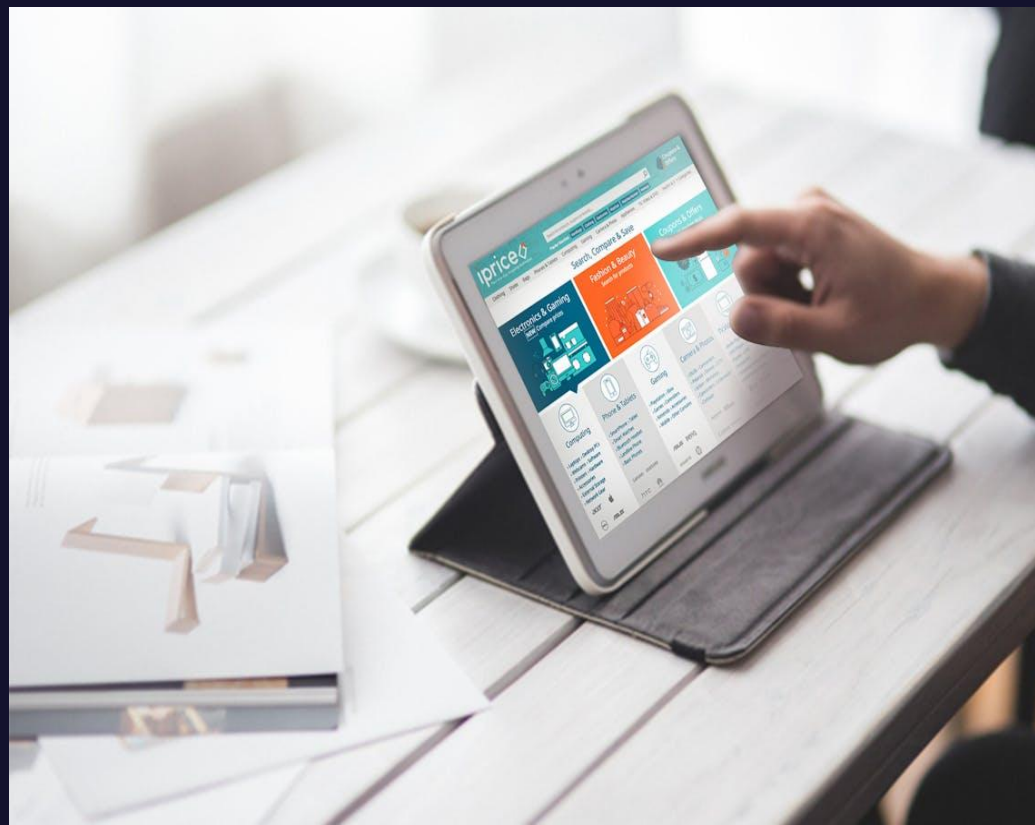
# E-commerce Sales Dashboard

Axton Benedict Cahyadi





# Project Objectives



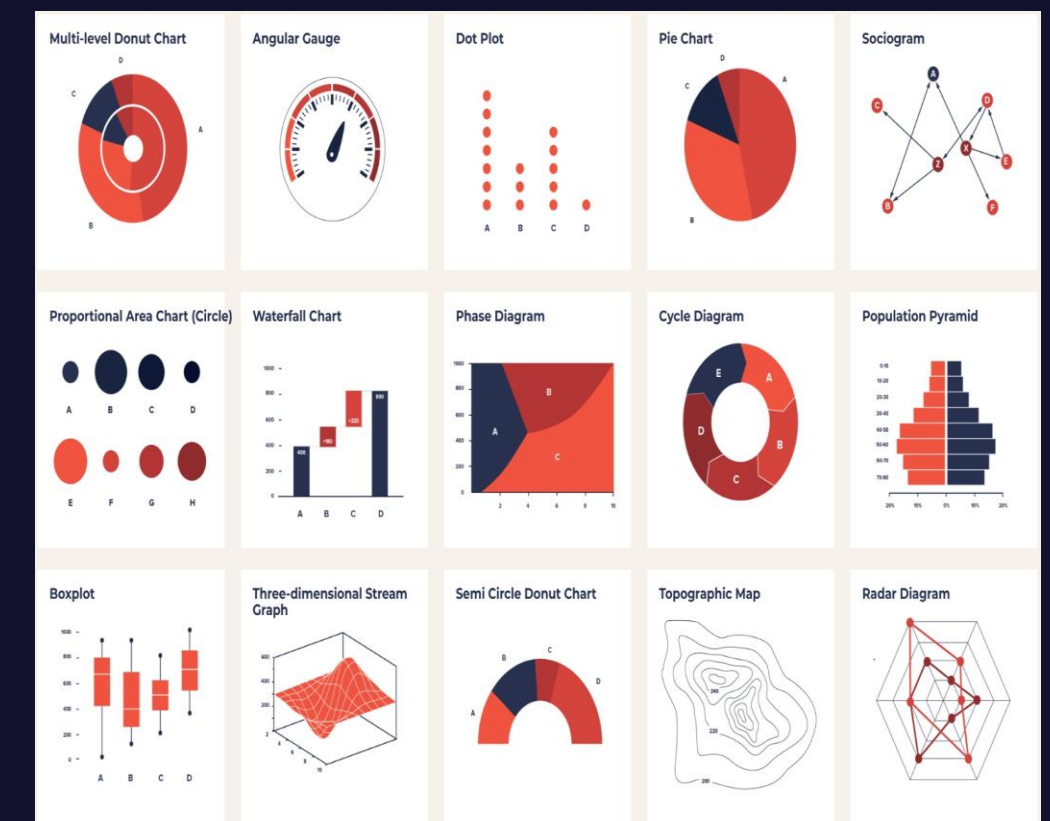
## Dashboard

Create a user-friendly dashboard on the Sales & Profit dataset given



## Data analysis

Perform the appropriate analysis on the dataset and provide meaningful insights and visualizations of the dataset



## Data visualization

Present conclusions, charts and insights based on the analysis to our stakeholders.

# Dataset Description

E-Commerce Dashboard dataset.xlsx

- Dataset of year 2015
- 21 Columns and 51290 Rows

## COLUMNS

Orders – details of each order

- OrderID, Order Date and Ship Date
- Aging
- Ship Mode
- Product Category & Products
- Price details: Sales, Quantity, Discount, Profit, Shipping Cost and Order Priority

Customers – details of each customer

- CustomerID, Name, Segment, Geographic details and months

# Data Formatting

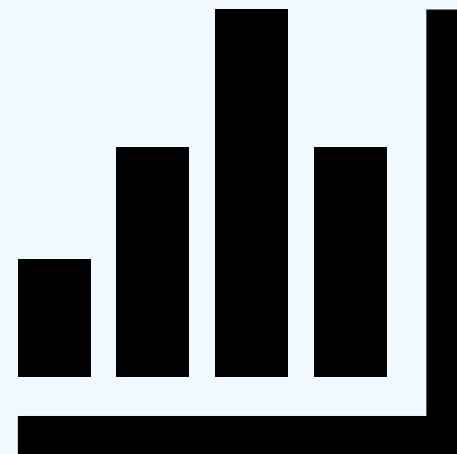
## Data Duplicates

No duplicate records  
found for Customers  
& Orders



## Icon set rule

Showing profits & sales  
divided into 3 groups



## Data types

Changing date format  
to dd-mmm-yy for  
readability





# Analysis

## STATISTICAL ANALYSIS:

- **Measures of central tendency** such as Mean, Median, Max, Min to describe the typical value in the dataset
- **Measures of dispersion** such as SD and Variance to indicate data spread
- Find **trends** and **correlation** between variables for deeper insights

## DESCRIPTIVE ANALYSIS:

- Summarizing & interpreting data
- Generate insights using statistics
- Data Visualization using charts and graphs



# Statistical Analysis

<u>Metrics</u>	<u>Sales</u>	<u>Profit</u>
Mean	\$156.4	\$72.7
Median	\$159	\$67
Maximum	\$250	\$167.5
Minimum	\$33	\$0.5
Standard Deviation	67.8	49.1
Variance	4327.1	2410.7
Correlation	0.92	
Profit Margin %	46.5 %	

- The **average** sale and profit is estimated to be \$156 and \$72
- A **46% profit margin** strongly indicates a healthy and profitable business
- Although it has a **high profit margin**, there was an outlier of \$0.5 profit only which needs to be looked into more and **adjust discounts** and **shipping costs** accordingly
- Despite that, there wasn't a sale that led to **negative profit**
- **High sales and profit variance** is a concern as it suggests **fluctuating revenue** and could **not produce stable results**
- **Correlation** between sales & profit is 92% which implies that as sales rise, so does profit

# Descriptive Analysis

# Sales Dashboard

Total Orders

51290



Total sales

\$8.023.381



Best&Worst region

Best:  
CENTRAL

Worst:  
CANADA

MORE DATASHEETS:

[click here for full dataset](#)

[Top and botom 3 products per region sheet](#)

[Top and bottom 3 products all regions sheet](#)

[Csutomer segment count sheet](#)

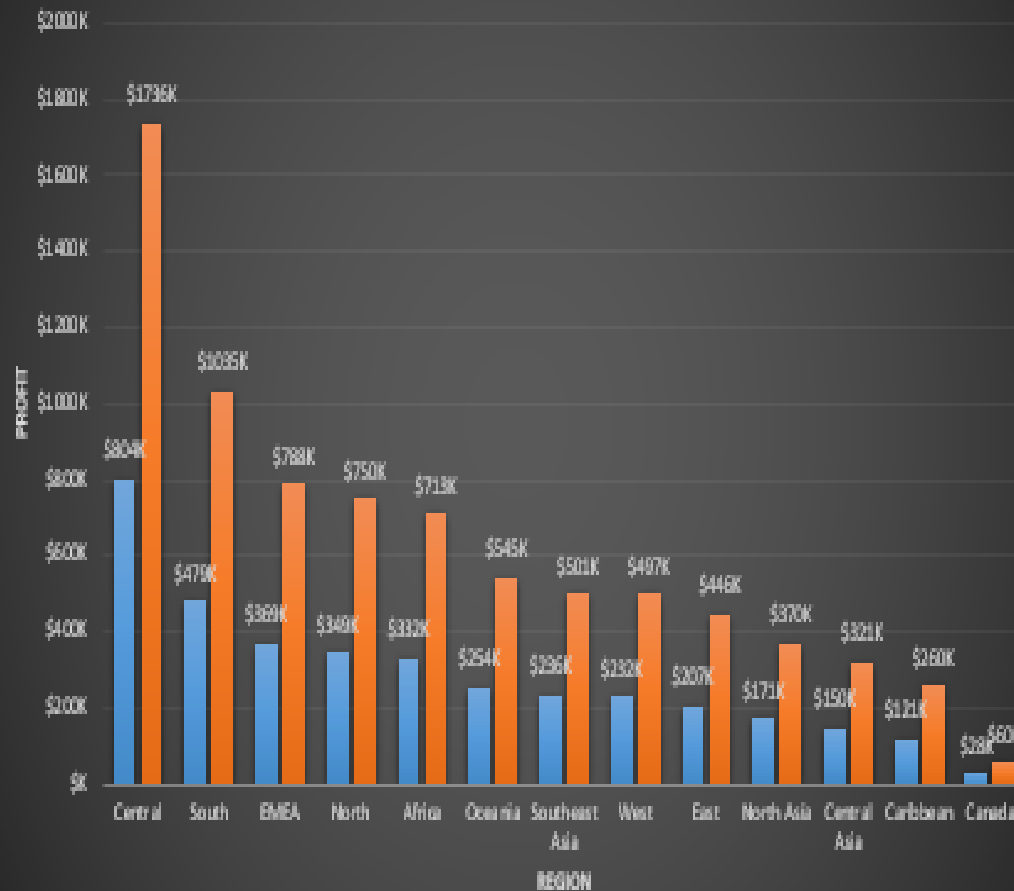
[Monthly profit sheet](#)

[Statistical analysis](#)

[Product Category contributions sheet](#)

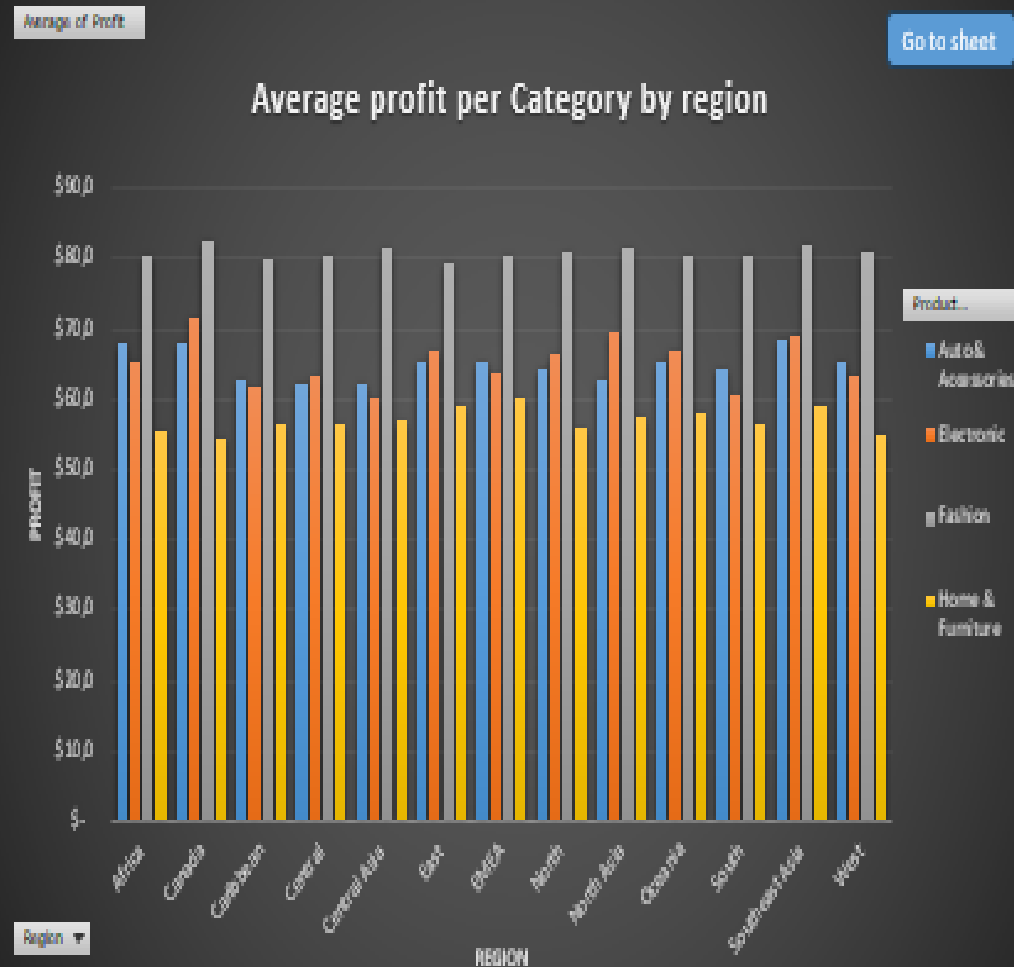
Total profit per region

[Go to sheet](#)



Average profit per Category by region

[Go to sheet](#)



Product Category

- Auto & Accessories
- Electronic
- Fashion
- Home & Furniture

Months

- Jul
- Aug
- Sep
- Oct
- Nov
- Dec

Segment

- Consumer
- Corporate
- Home Office

Region

- Canada
- Caribbean
- Central
- Central Asia
- East
- EMEA
- North

Product

- Apple Laptop
- Bed Sheets
- Beds
- Bike Tyres
- Car & Bike Care
- Car Body Covers
- Car Pillows & Mats

## Top selling products

T-shirts

UNITS: 8,346  
SALES: \$692.912  
PROFIT: \$407.716



Titak Watch

UNITS: 8,535  
SALES: \$637.260  
PROFIT: \$355.244



Running Shoes

UNITS: 8,345  
SALES: \$626.080  
PROFIT: \$346.338



## Worst selling products

Keyboard

UNITS: 671  
SALES: \$7,293  
PROFIT: \$3290



Watch

UNITS: 674  
SALES: \$22.984  
PROFIT: \$3.428



Mouse

UNITS: 651  
SALES: \$24.531

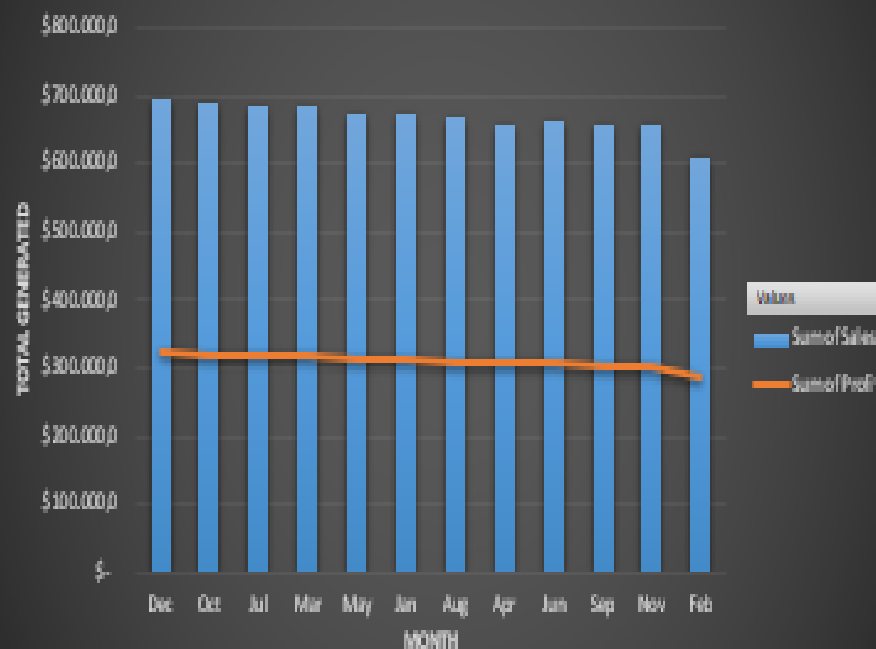


Sum of Sales

Sum of Profit

Sales & Profit

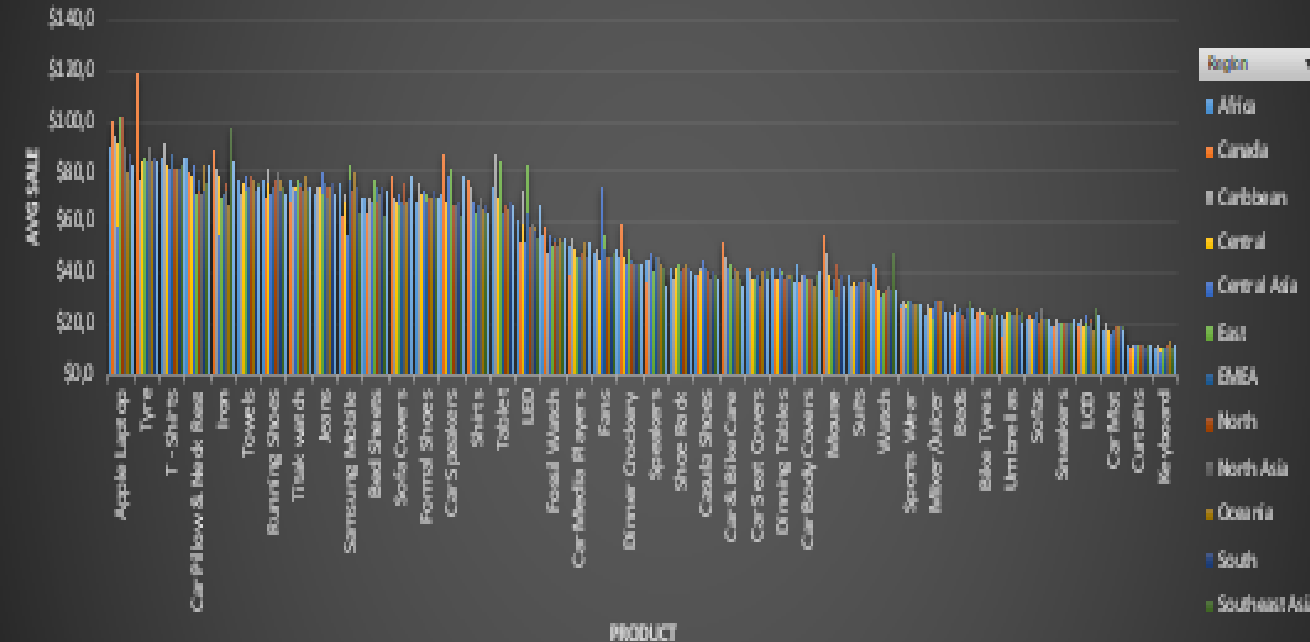
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Sum of Avg Sales

average sales per product by region

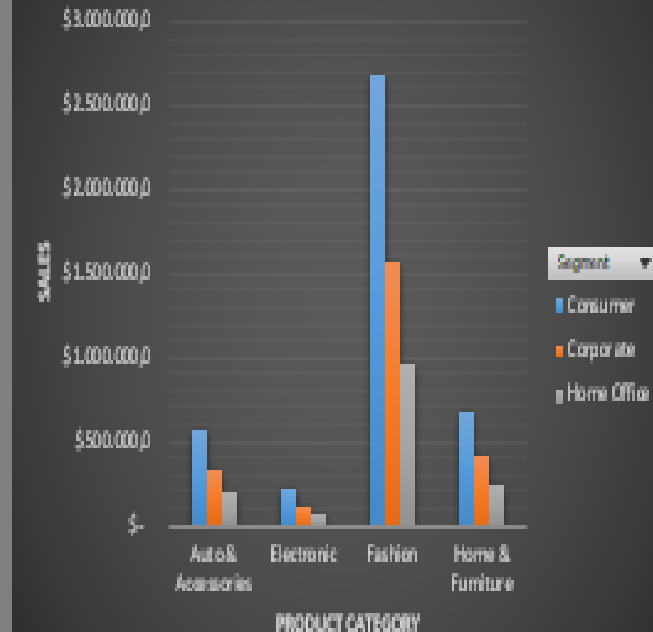
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Sum of Sales

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Sales to customer segments

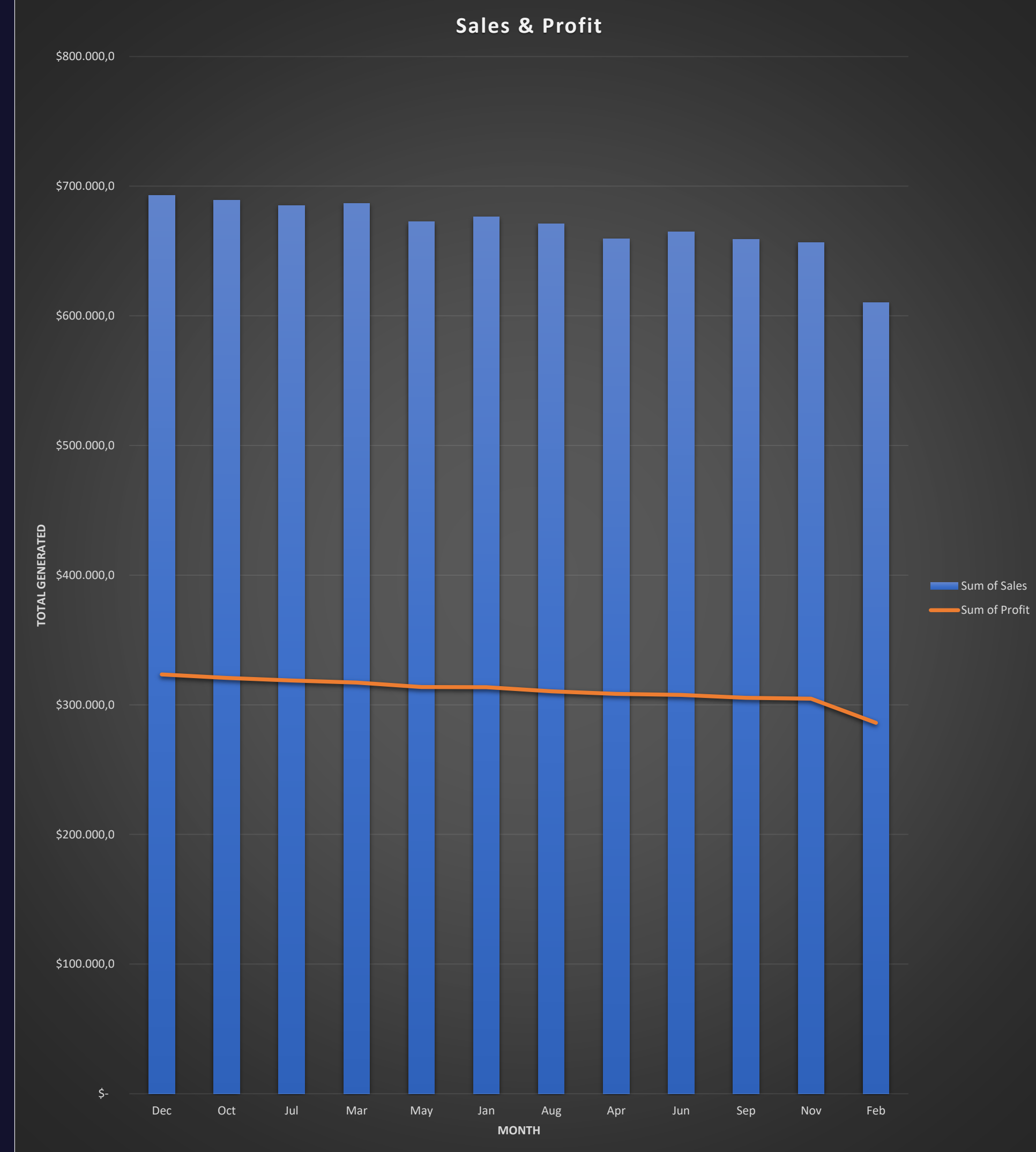




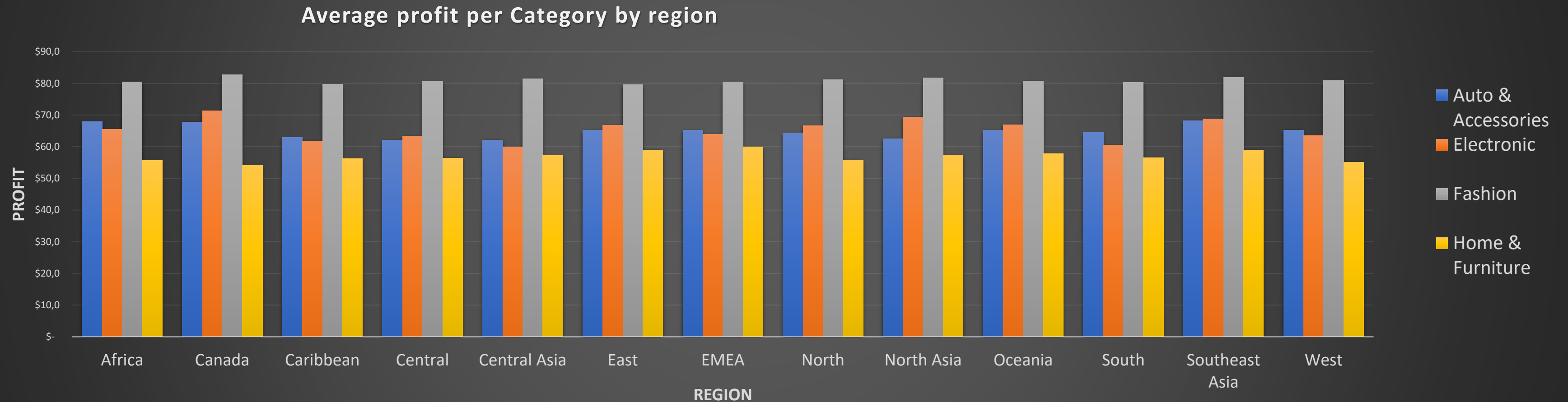
# Sales & Profit

Averaging at:

- **SALES:** \$668.615
- **PROFIT:** \$301.825
- **Best** performing month is December
- **Worst** performing month is February
- Both sales and profit lines are looking **steady**, which indicates a stable business.
- **December, October and July** have the highest sales most likely due to **holiday seasons** / mid-year sales promotions
- **February** has the lowest sales possibly due to **fewer days of the month** & post-holiday customer fatigue after **spending too much in January**

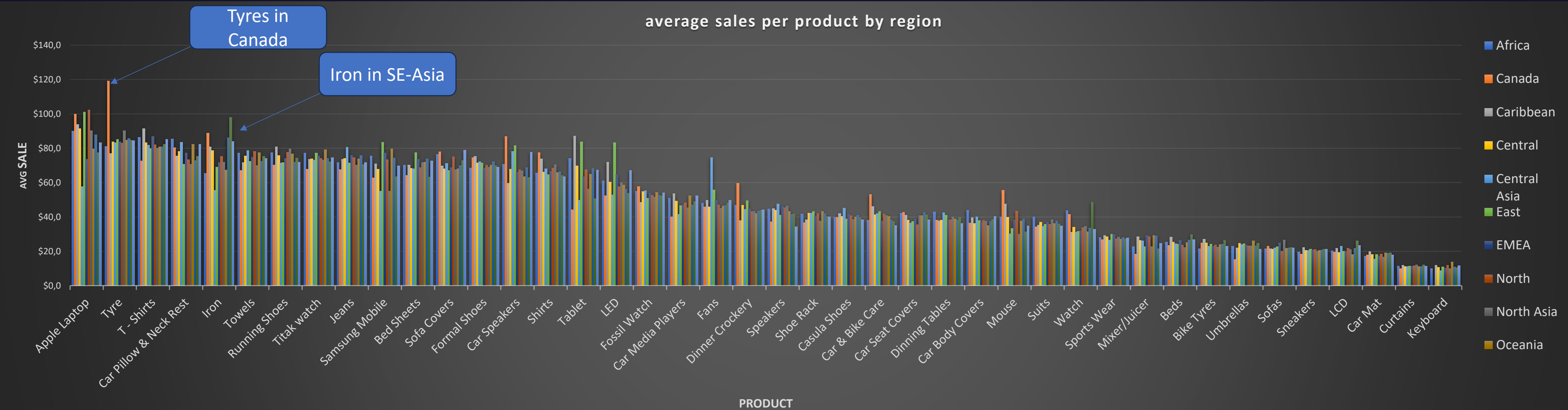


# Profit per Product Category (region-wise)



- All of the regions have a consistent average profit for all categories
- Most profitable category is **Fashion (green)**
- Least profitable category is **Home & Furniture (purple)**
- **Fashion** dominating the product category with an average profit of \$80 per order.
- **Home & Furniture** coming in last by far with only \$57 per order.
- We can tell from here that **Home & Furniture** are not doing too well over all regions and need to **improve marketing strategies** and re-evaluate discounts to increase the profit margin.

# Sales per product (region wise)



## Top 3 average sales

- 1.Apple Laptop
- 2.Tyre
- 3.T-shirts

## Top 3 worst products:

- 1.Keyboard
- 2.Curtains
- 3.Car Mat

## Wide variance of sales by region

- Invest more in the top 3 to capitalize on their strong market
- Reconsider marketing/innovation approach to lowest 3 products
- Products like Tyres in Canada and Iron in SouthEast Asia, hints at regional demand variations and should focus more on their demands appropriate regions

# Best and Worst products

In both sales and profits category

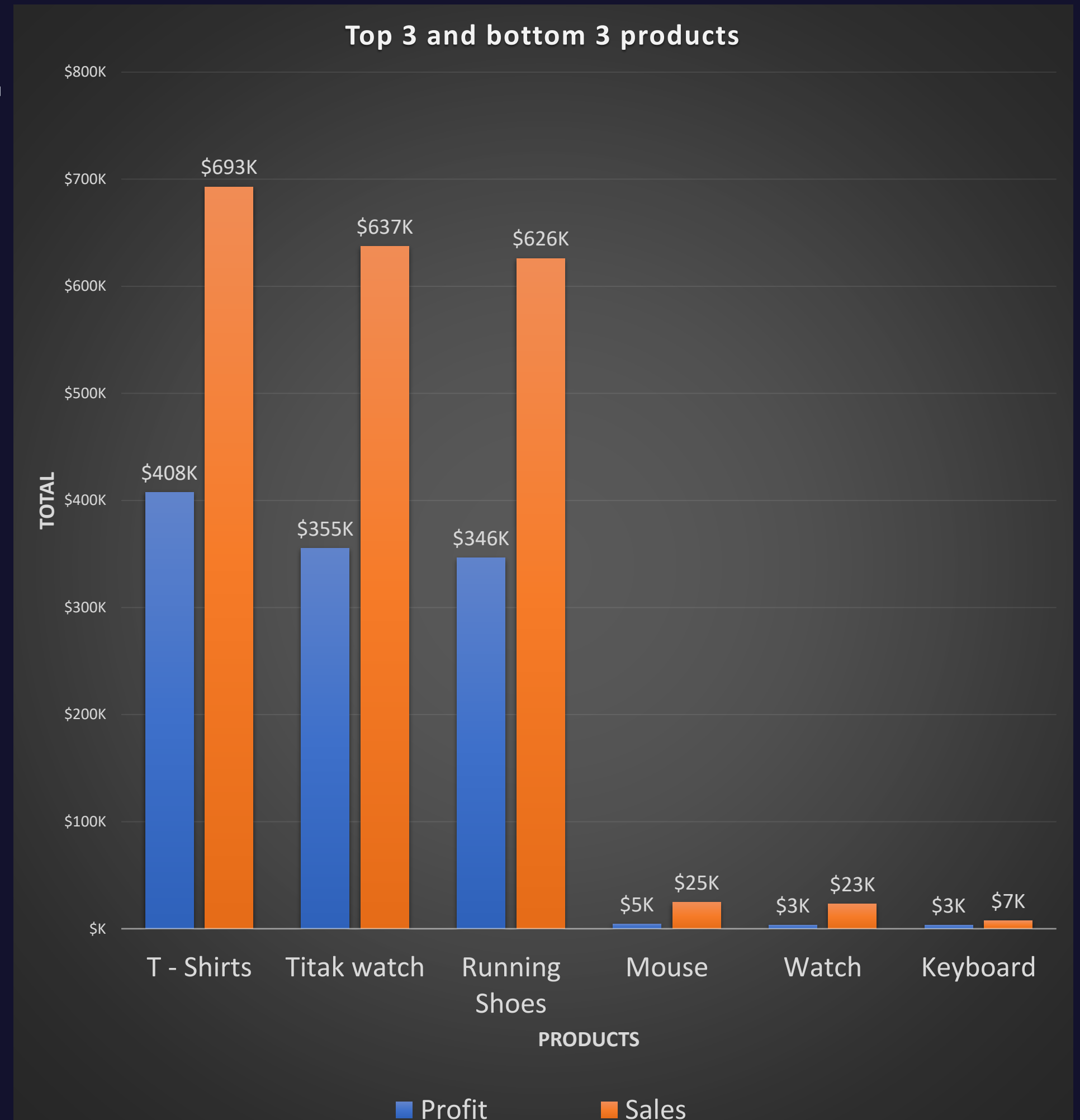
## Best products

- 1. T-shirts (\$693k/\$408k)
- 2. Titak watch (\$647k/\$355k)
- 3. Running Shoes (\$626k/\$346k)

## Worst products

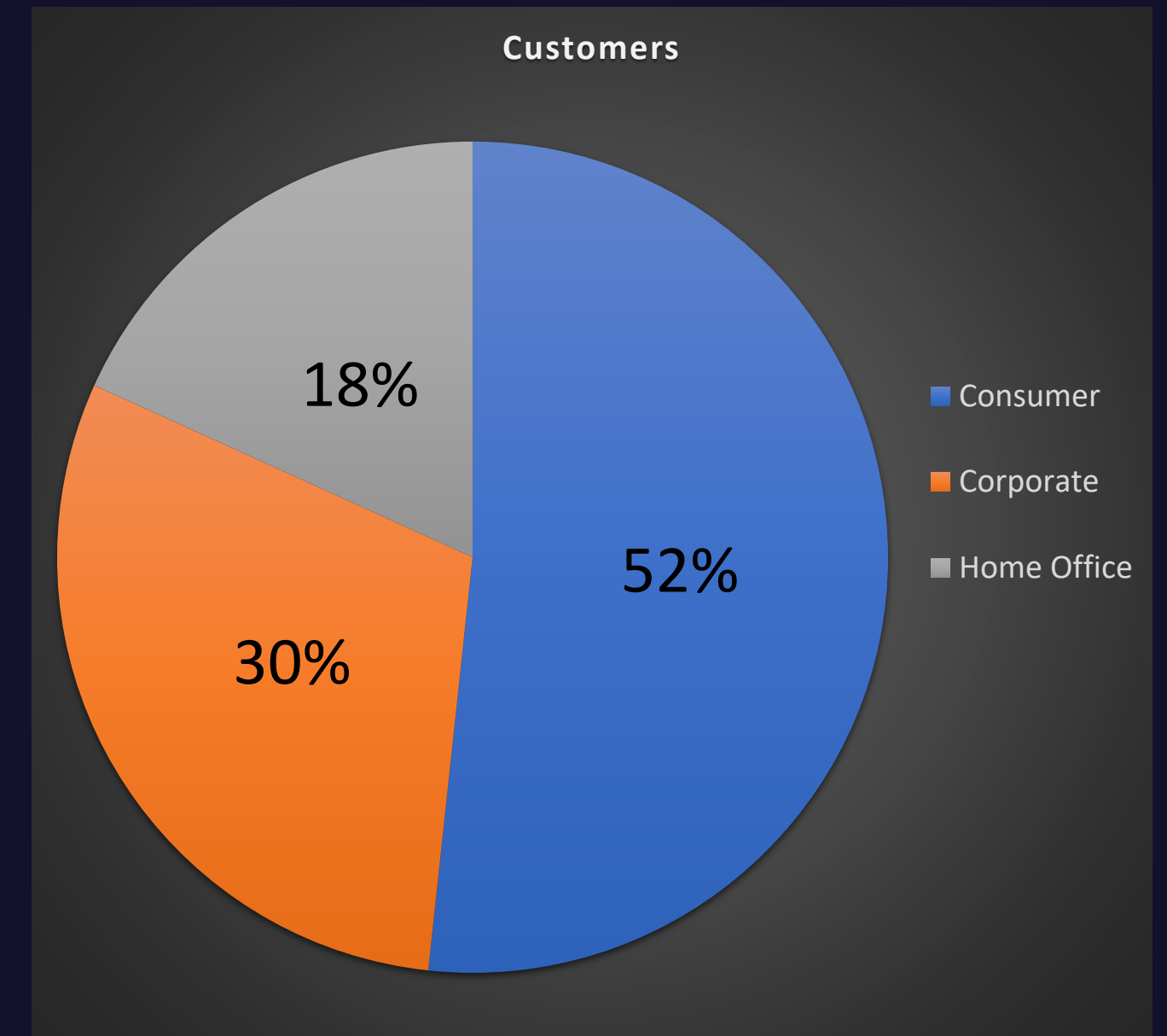
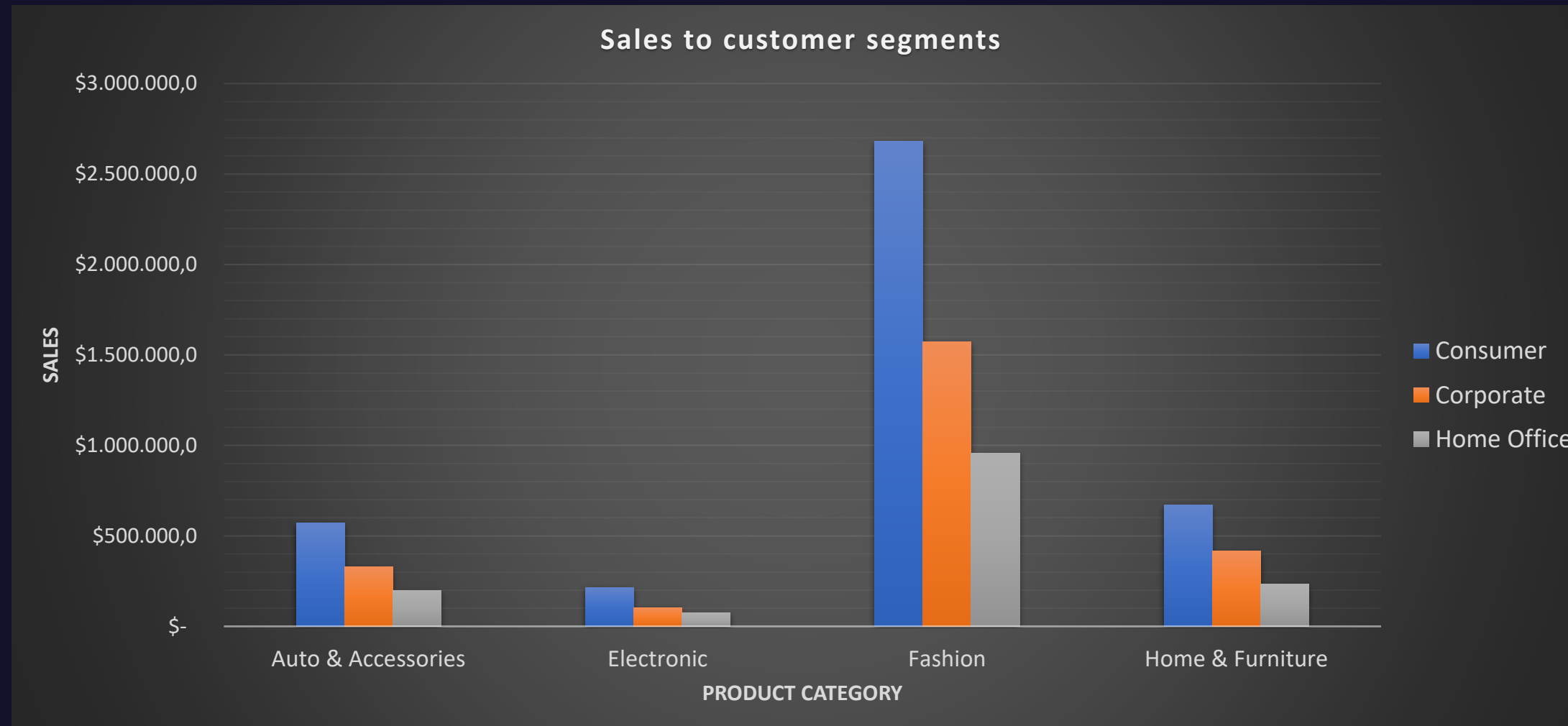
- 1. Keyboard (\$25k/\$5k)
- 2. Watch (\$23k/\$3k)
- 3. Mouse (\$7k/\$3k)

**NOTE:** <product><total-sales/total-profit>  
THIS IS FOR ALL REGIONS





# Customer segment sales



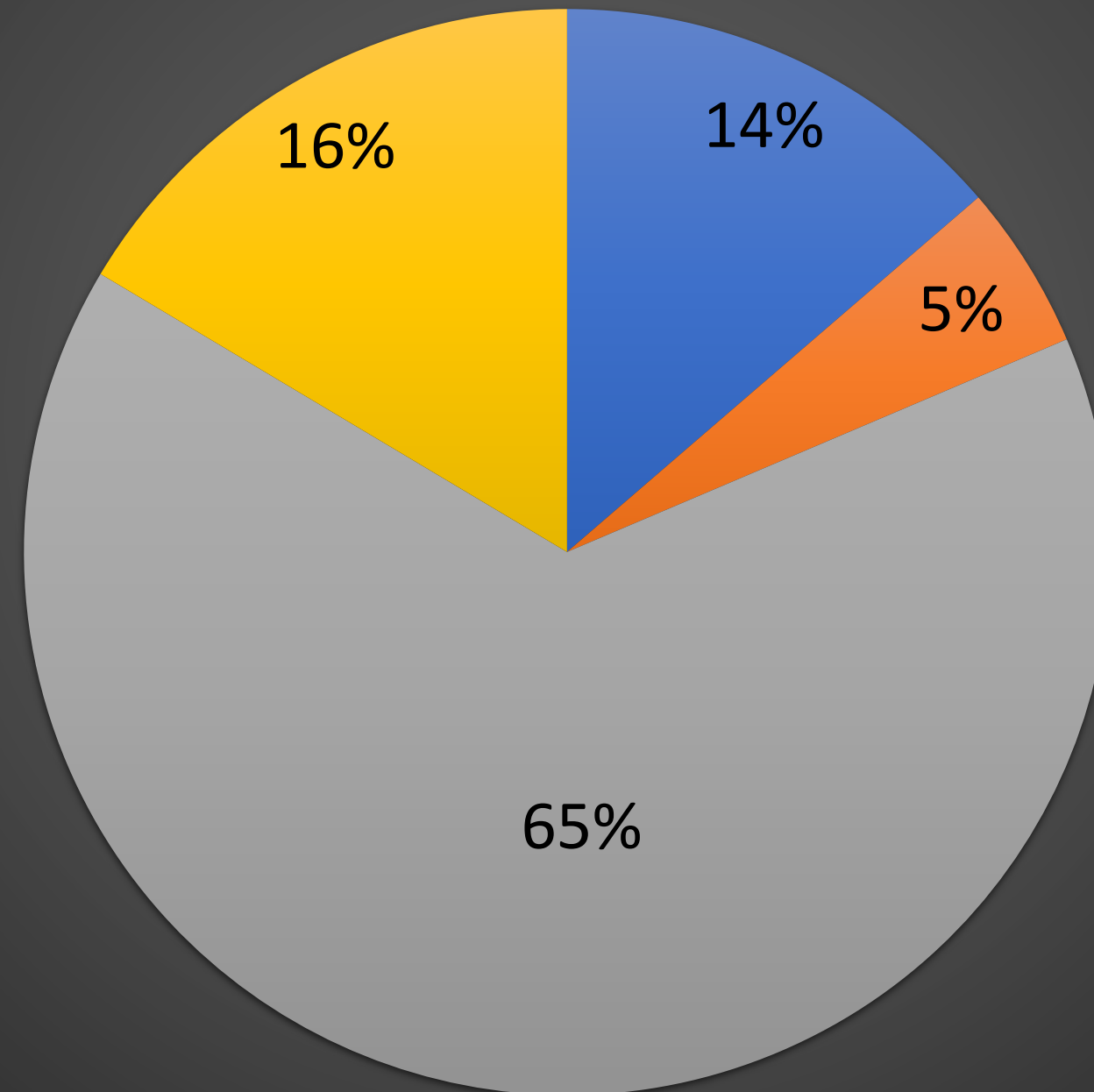
- It shows that more than 50% are **Consumers**
- **Home Office** have the least sales as shipping cost and sales correlate the same way
- All customer segments indulge in the **Fashion** category the most and **Electronics** last.

# Product contribution sales

- Most of the sales (65%) are in Fashion (green)
- Smallest sales category is in Electronics (5%) (red)
- With Auto & Accessories and Home & Furniture closely tied at 14% and 16% respectively
- Look into stocking more **inventory** on fashion as it is the leading category
- **Investigate** and **change** products sold in the **Electronics** category to keep up to date with the trendy items

Product sale contribution by category

■ Auto & Accessories ■ Electronic ■ Fashion ■ Home & Furniture



Conclusion

Sales Trends: **December** with highest profit and sales with **February** being the lowest

Regional Performance: **Central** takes the top spot with both sales and profit with **Canada** in last place

Product & Category Insights: **T-shirts, Titak Watches and Running Shoes** taking top 3 in profits while **Keyboards, Watch and Mouse** in last places, but still having positive profit. **Fashion** category is where most customers order from and **Electronics** category are rough that year.

Customer Segments: **Consumers** drive the most sales and quantity sold with **Home office** last place.



# Most & Least profitable products

( $\frac{1}{2}$ )

Most

Central	South	EMEA	North	Africa	Oceania	SE-Asia
<ul style="list-style-type: none"><li>• T-shirts</li><li>• Titak Watch</li><li>• Running Shoes</li></ul>	<ul style="list-style-type: none"><li>• T-shirts</li><li>• Titak Watch</li><li>• Running Shoes</li></ul>	<ul style="list-style-type: none"><li>• T-shirts</li><li>• Titak Watch</li><li>• Jeans</li></ul>	<ul style="list-style-type: none"><li>• T-shirts</li><li>• Titak Watch</li><li>• Running Shoes</li></ul>	<ul style="list-style-type: none"><li>• T-shirts</li><li>• Titak Watch</li><li>• Running Shoes</li></ul>	<ul style="list-style-type: none"><li>• T-shirts</li><li>• Running Shoes</li><li>• Jeans</li></ul>	<ul style="list-style-type: none"><li>• T-shirts</li><li>• Titak Watch</li><li>• Jeans</li></ul>
<ul style="list-style-type: none"><li>• Keyboard</li><li>• Watch</li><li>• Mixer / Juicer</li></ul>	<ul style="list-style-type: none"><li>• Keyboard</li><li>• Watch</li><li>• Mouse</li></ul>	<ul style="list-style-type: none"><li>• Keyboard</li><li>• Watch</li><li>• Mouse</li></ul>	<ul style="list-style-type: none"><li>• Keyboard</li><li>• Watch</li><li>• Mouse</li></ul>	<ul style="list-style-type: none"><li>• Keyboard</li><li>• Watch</li><li>• Mouse</li></ul>	<ul style="list-style-type: none"><li>• Keyboard</li><li>• Watch</li><li>• LCD</li></ul>	<ul style="list-style-type: none"><li>• Keyboard</li><li>• Watch</li><li>• Mixer / Juicer</li></ul>

Least

# Most & Least profitable products

( $\frac{1}{2}$ )

Most

West

- T-shirts
- Titak Watch
- Running Shoes

East

- T-shirts
- Titak Watch
- Running Shoes

North-Asia

- T-shirts
- Titak Watch
- Jeans

Central-Asia

- T-shirts
- Titak Watch
- Running Shoes

Carribean

- T-shirts
- Jeans
- Running Shoes

Canada

- T-shirts
- Titak Watch
- Jeans

- Keyboard
- Watch
- Mouse

- Keyboard
- LCD
- Mixer / Juicer

- Keyboard
- Watch
- Mixer / Juicer

- Keyboard
- Watch
- Mouse

- Keyboard
- LCD
- Mouse

- LCD
- Mouse
- Mixer / Juicer

Least

# Insights & Recommendation

### Sales Strategy:

**Increase marketing and promotions** in Q1 (especially Feb) to boost sales

**Stock up** on inventory and plan **ad campaigns** for **December** to maximize sales

### Regional Focus:

**Expand operations and marketing** in Central region to capitalize on strong performance

**Analyze challenges** in Canada's market and **refine marketing efforts and strategies**

### Product Strategy:

**Invest more** in high performing categories such as Fashion which includes T-shirts, Running shoes and Titak watches which are the top 3 best selling products as well

Consider **product innovation** to boost weaker categories like Electronics, which includes Keyboards and mouse products

### Customer Segmentation:

**Segments customers further** for deeper insights and better marketing strategy

**Bundling** home office essentials, more discounts and awareness campaigns to increase demand



# Thank you



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