



SALES EDA PROJECT USING ADVANCED EXCEL

**PRESENTED BY:
SWETHA KIZHAVANA JOSEPH
BUSINESS ANALYST INTERN**

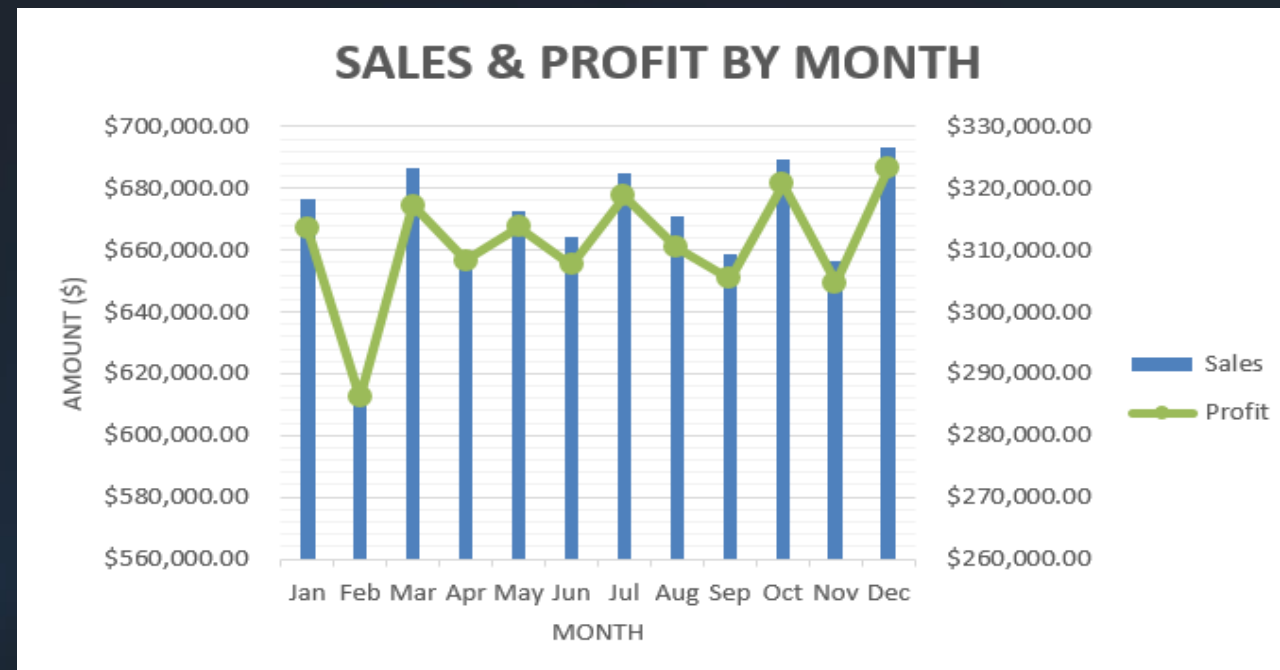
INTRODUCTION

- This project focuses on designing an advanced Excel Sales interactive dashboard to analyse the 'E-Commerce Sales dataset' and uncover insights for decision-making.
- The purpose of the project is to utilize Excel for in-depth sales analysis.
- Key tasks include cleaning and formatting data, creating Pivot tables and charts, identifying top/bottom products and Regional performances, and performing exploratory data analysis and statistical analysis using Excel functions.

DATASET DESCRIPTION

- The dataset includes 51,290 records, detailing sales information across various product categories of the year 2015.
- Key features include Order ID, Order Date, Ship Date, Ship Mode, Product Category, Product Name, Sales, Quantity, Discount, Profit, Shipping Cost, Order Priority, Customer ID, Customer Name, City, State, Country, Region, and Months.
- This dataset allows for a comprehensive analysis of sales trends, profitability, and performance metrics.

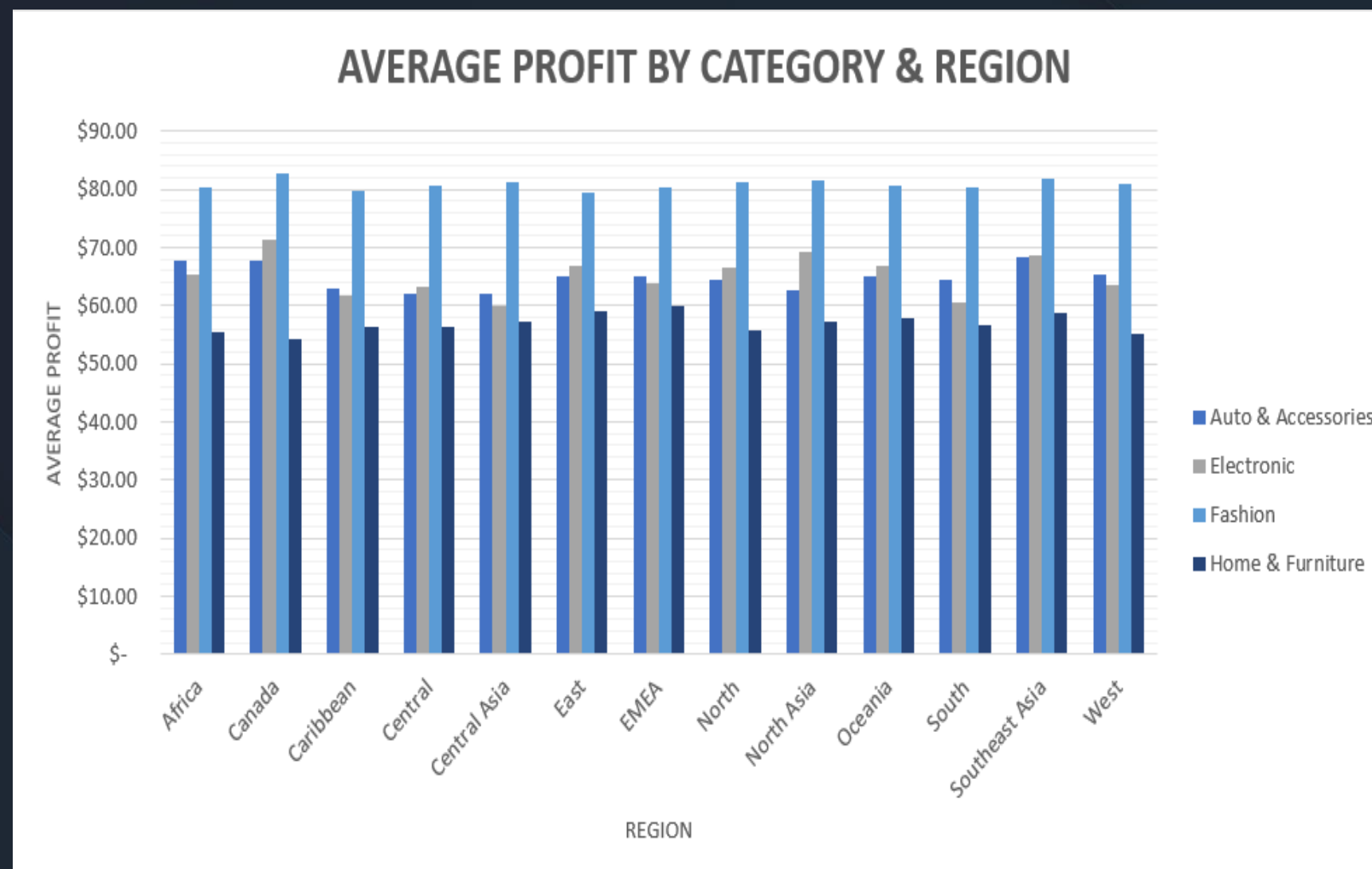
SALES & PROFIT ANALYSIS



- Sales and profit fluctuate consistently, peaking in December; other peaks in March, July, and October.
- Lowest sales and profit are observed in February.
- Sales and Profit are positively correlated (**Correlation Coefficient = 0.991389937**). This suggests selling more leads to higher profits.

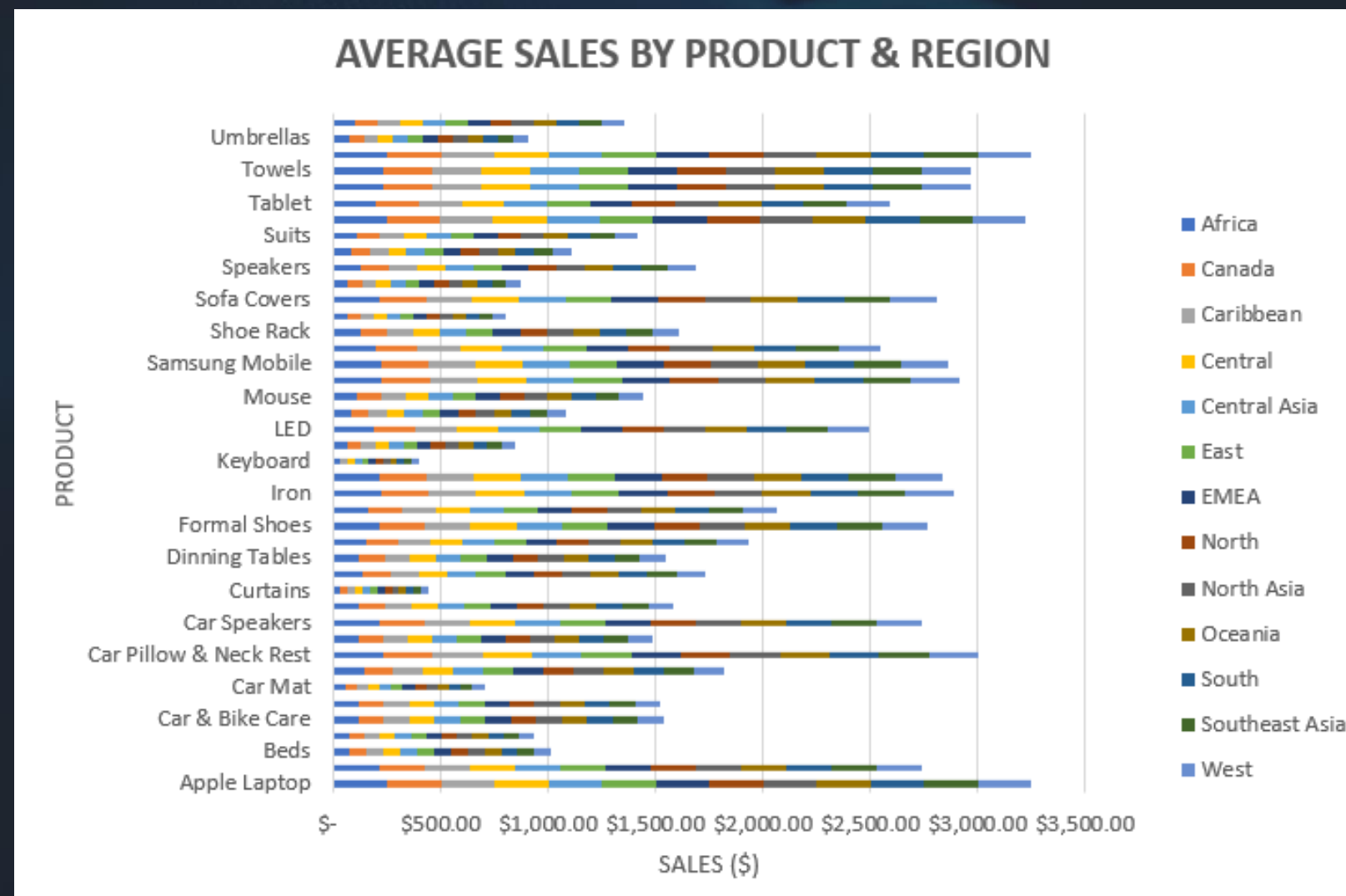
Month	Sales	Profit
Jan	\$ 676,313.00	\$ 313,566.35
Feb	\$ 610,240.00	\$ 286,102.62
Mar	\$ 686,681.00	\$ 317,186.01
Apr	\$ 659,404.00	\$ 308,364.51
May	\$ 672,547.00	\$ 313,751.25
Jun	\$ 664,560.00	\$ 307,585.02
Jul	\$ 685,152.00	\$ 318,703.20
Aug	\$ 670,788.00	\$ 310,442.84
Sep	\$ 658,844.00	\$ 305,334.46
Oct	\$ 689,116.00	\$ 320,748.67
Nov	\$ 656,663.00	\$ 304,716.10
Dec	\$ 693,073.00	\$ 323,401.92
Grand Total	\$ 8,023,381.00	\$ 3,729,902.95

REGIONAL PROFIT ANALYSIS BY PRODUCT CATEGORY



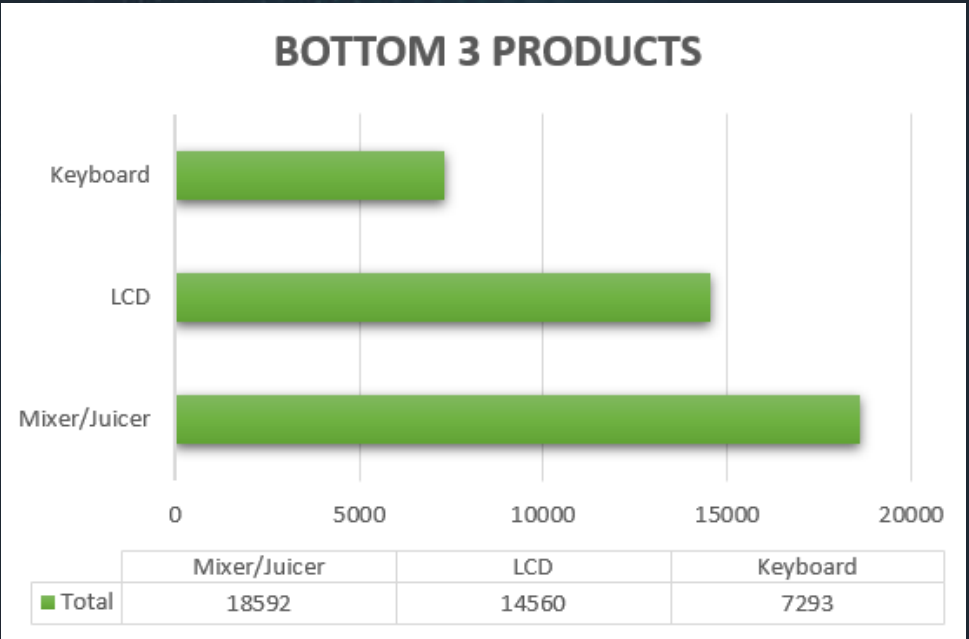
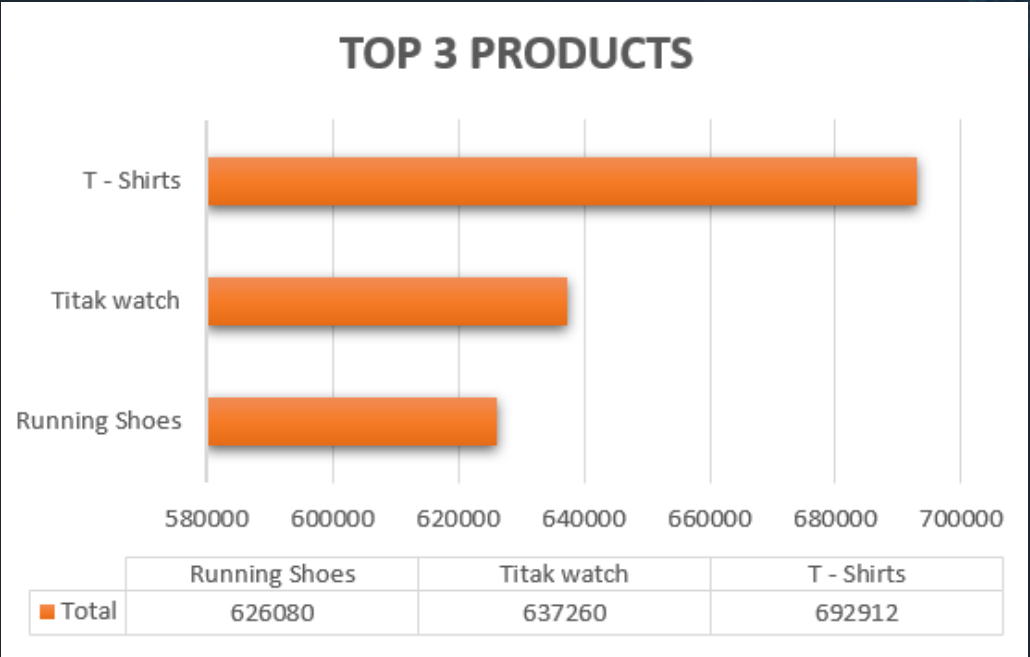
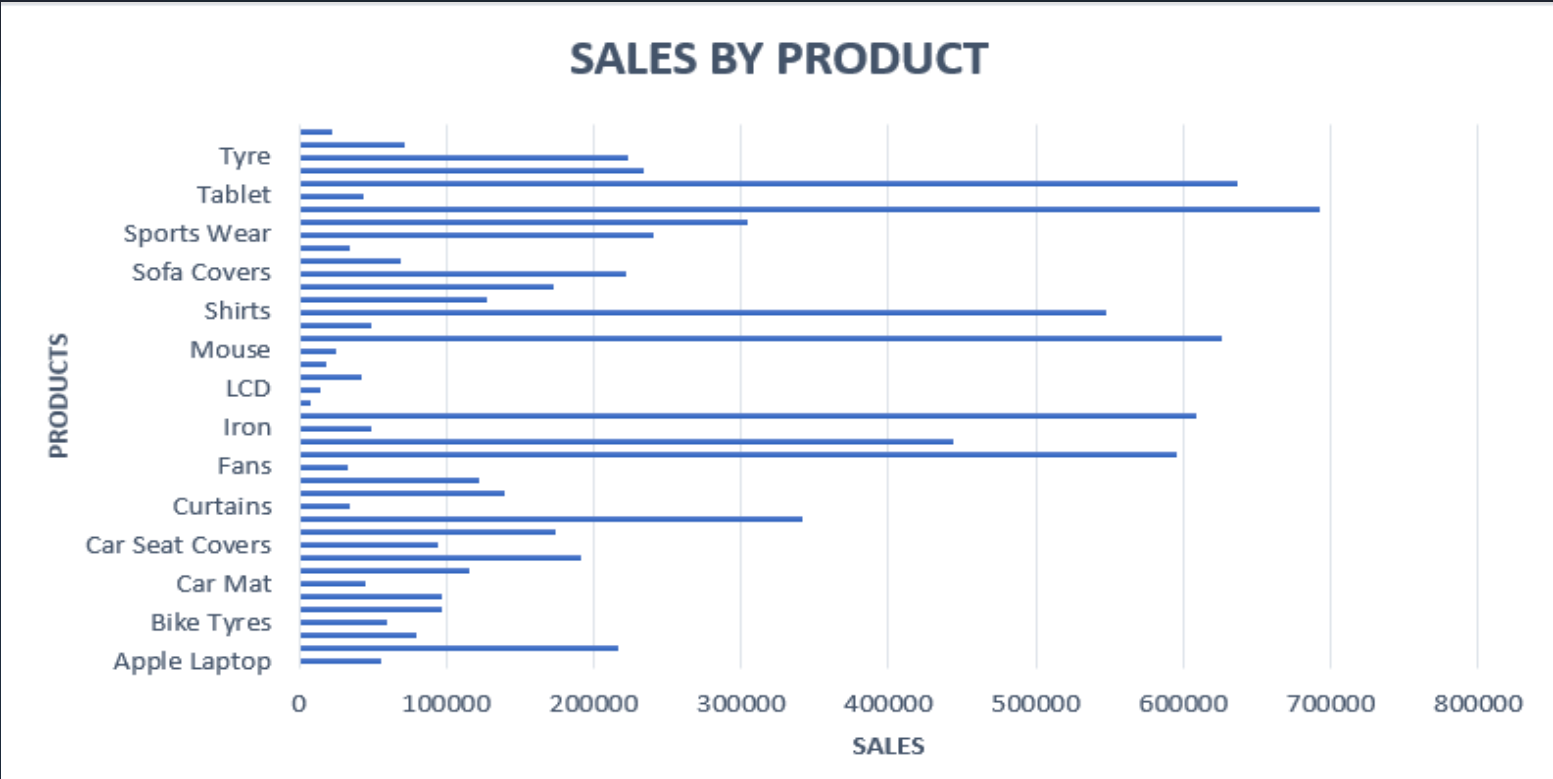
- The graph compares average profit across product categories (Home & Furniture, Fashion, Electronic, Auto & Accessories) by region.
- Fashion is the leading category, with a strong performance in most regions.
- Auto & Accessories, Electronics, and Home & Furniture have varying average profits by region.
- Canada has high profits in Fashion and Electronics.
- Southeast Asia, EMEA, and North Asia show considerably high average profits across all categories.
- Strategic efforts can be focused on improving performance in lower-performing regions like the Caribbean and Central, Central Asia.

REGIONAL SALES ANALYSIS BY PRODUCT

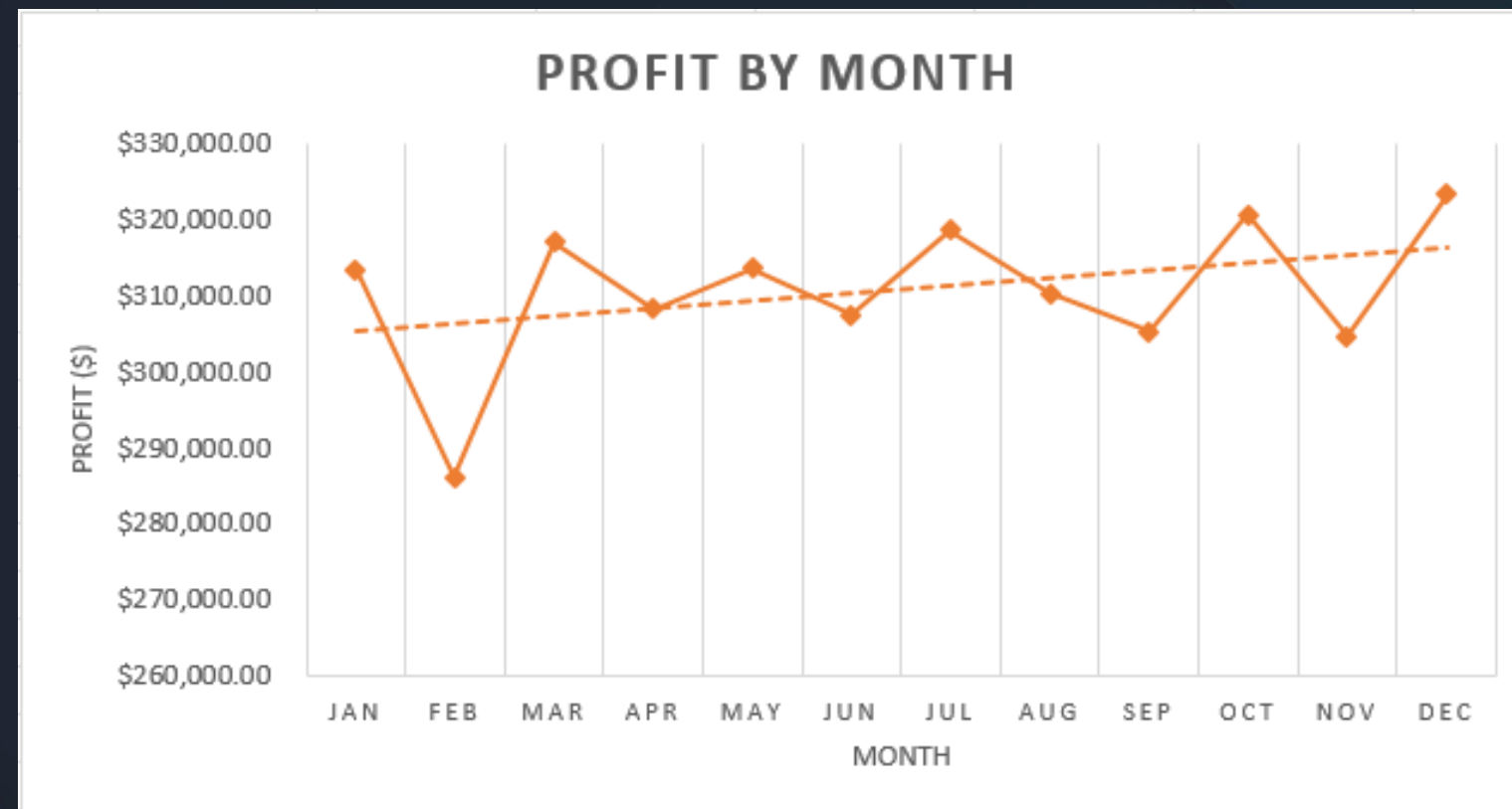


- **Apple Laptop, Tyre, and T-shirts** have the highest average sales across multiple regions, particularly strong in West and Southeast Asia.
- **Keyboard and Curtains** shows generally lower sales across all regions.
- **West, Southeast Asia, and EMEA** show slightly higher average sales, whereas the **Caribbean** has the lowest average sales.
- High variability in sales indicates different product popularity across regions.

SALES PERFORMANCE BY PRODUCT

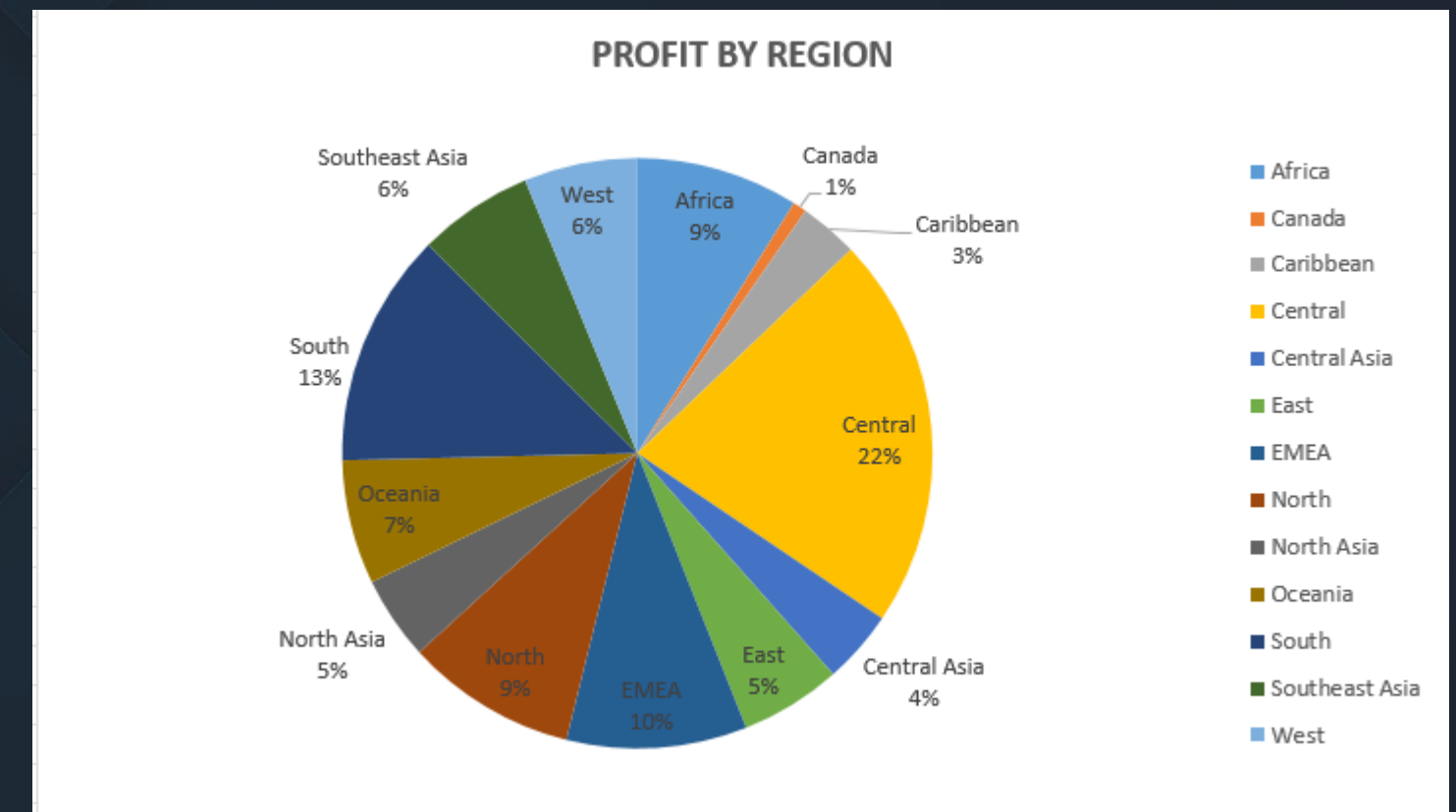


MONTHLY AND REGIONAL PROFIT ANALYSIS

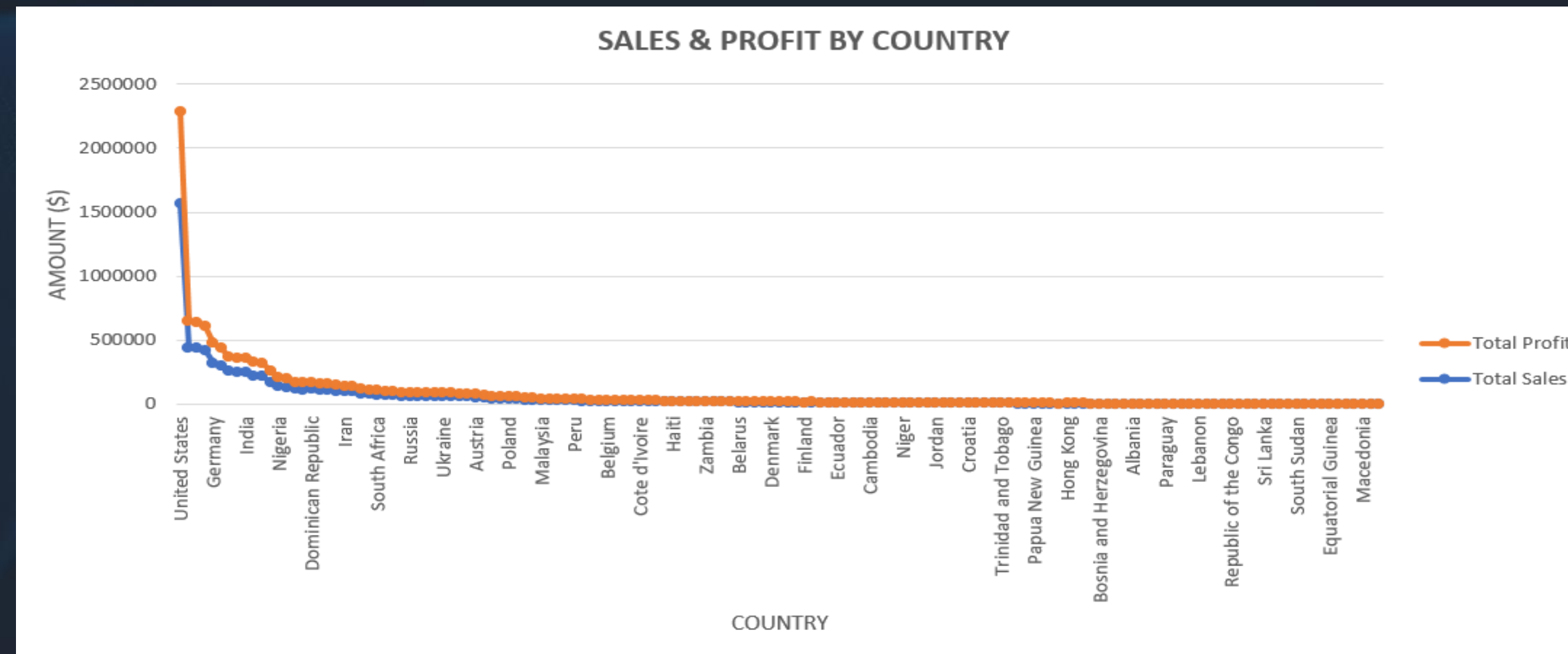


- Profits fluctuated throughout the year 2015, with an overall upward trend indicated by the dotted trend line, which suggests strong year-end sales

- Despite lower average profits per Product category, the Central region shows the highest total profit (22%), likely due to a high volume of sales across many products.

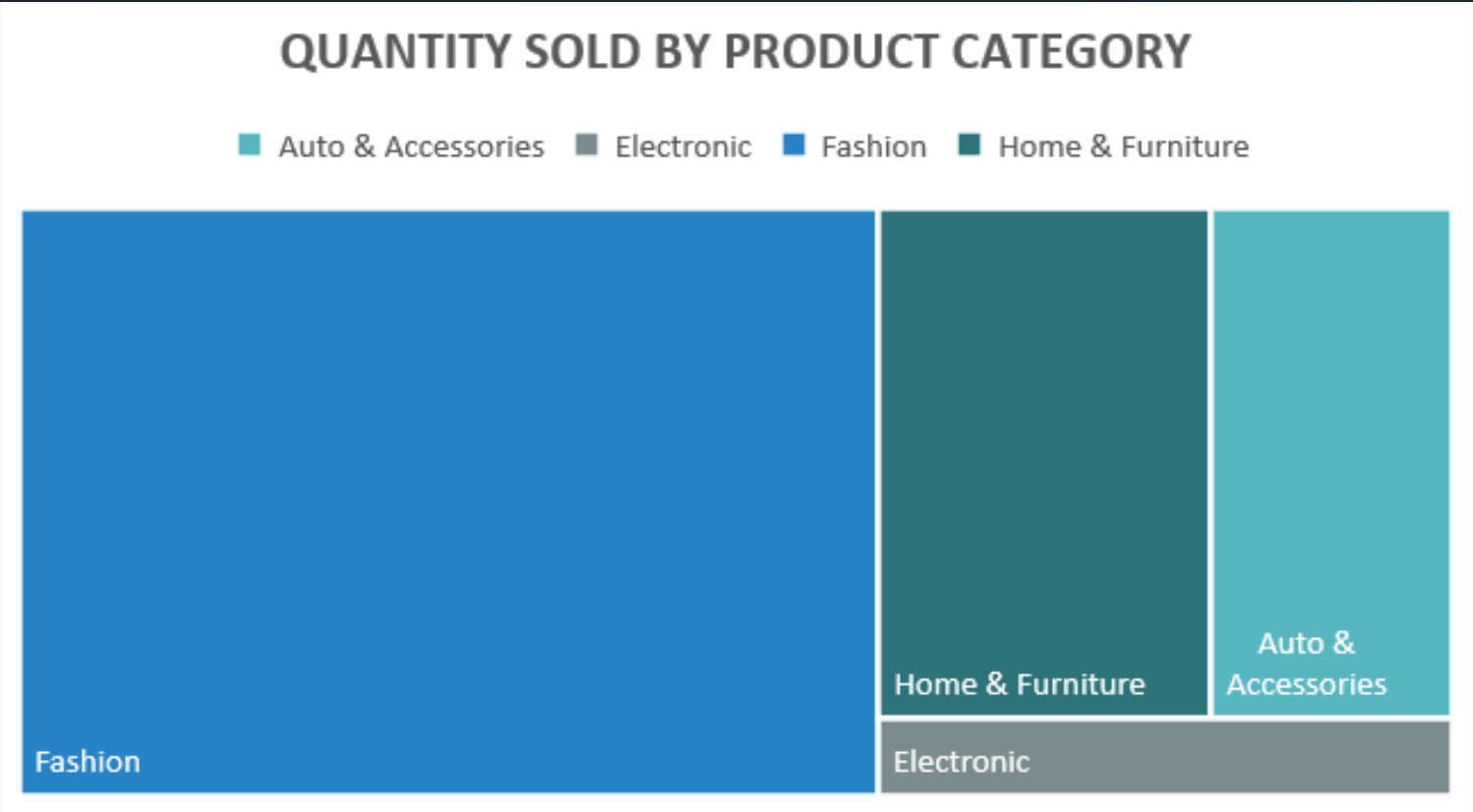


GLOBAL SALES & PROFIT DISTRIBUTION BY COUNTRY



- United States dominates with the highest total sales (\$15,621,700) and profit (\$7,249,063.95).
- There is a sharp drop-off after the top few countries, with a long tail of countries contributing smaller amounts to total sales and profit.
- This indicates a high concentration of sales and profit in a few key markets.

TOTAL QUANTITY SOLD BY PRODUCT CATEGORY

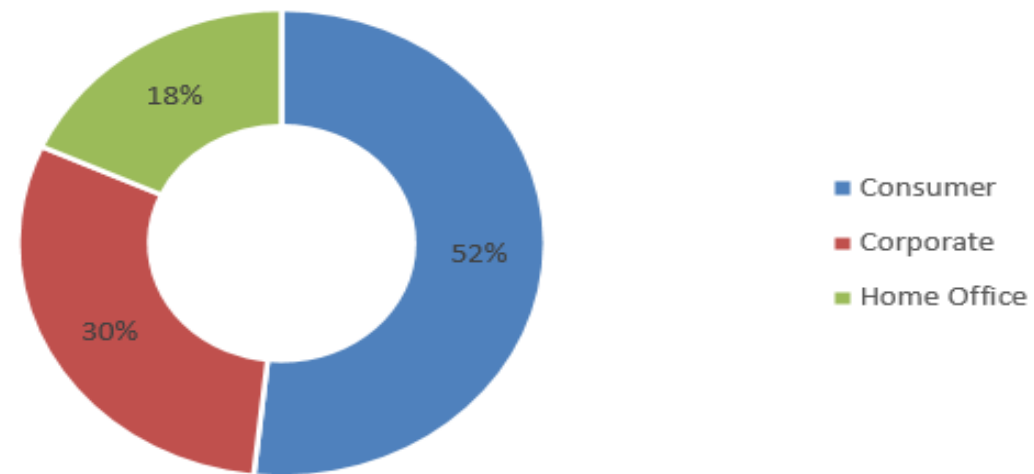


- Overall units sold across all categories: 153,732 units.
- Fashion leads with the highest quantity sold.
- Electronics has the lowest quantity sold among the categories.

Product Category	Quantity Sold
Fashion	92071
Home & Furniture	31055
Auto & Accessories	22395
Electronic	8211
Grand Total	153732

CUSTOMER SEGMENT ANALYSIS

CUSTOMER SEGMENT DISTRIBUTION



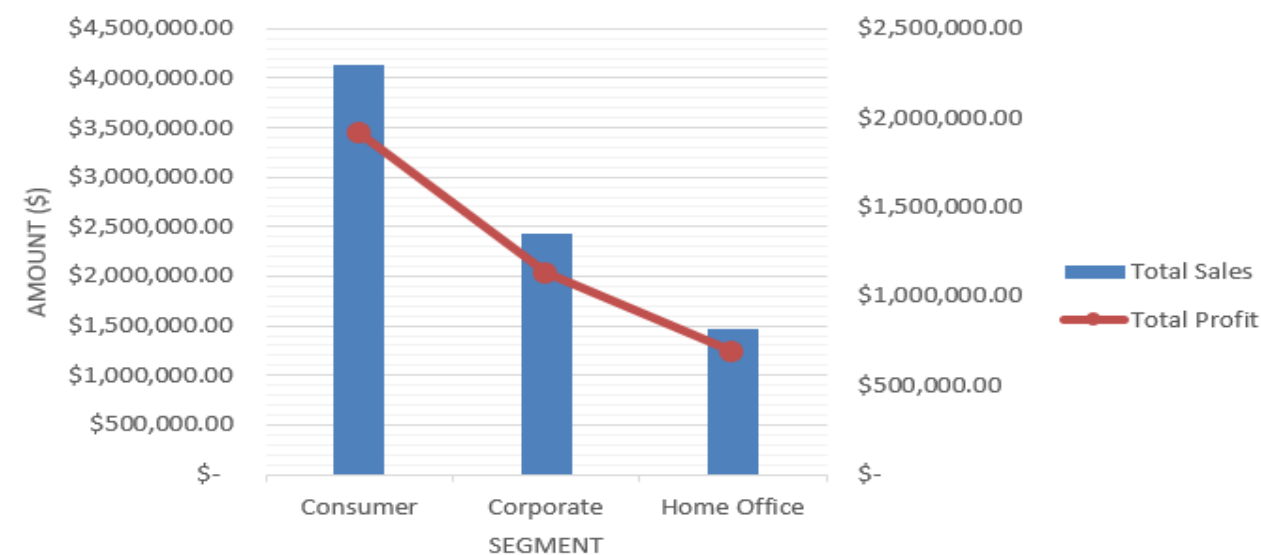
➤ The Consumer segment contributes the largest portion (52%) of the total customers.

➤ The Combo chart also highlights the consumer segment's dominance in sales and profit, suggesting a strong focus on individual consumers.

➤ The higher Consumer segment percentage is likely due to a broad market appeal, effective marketing, suitable products, excellent customer experience, favourable economic conditions, and lifestyle changes.

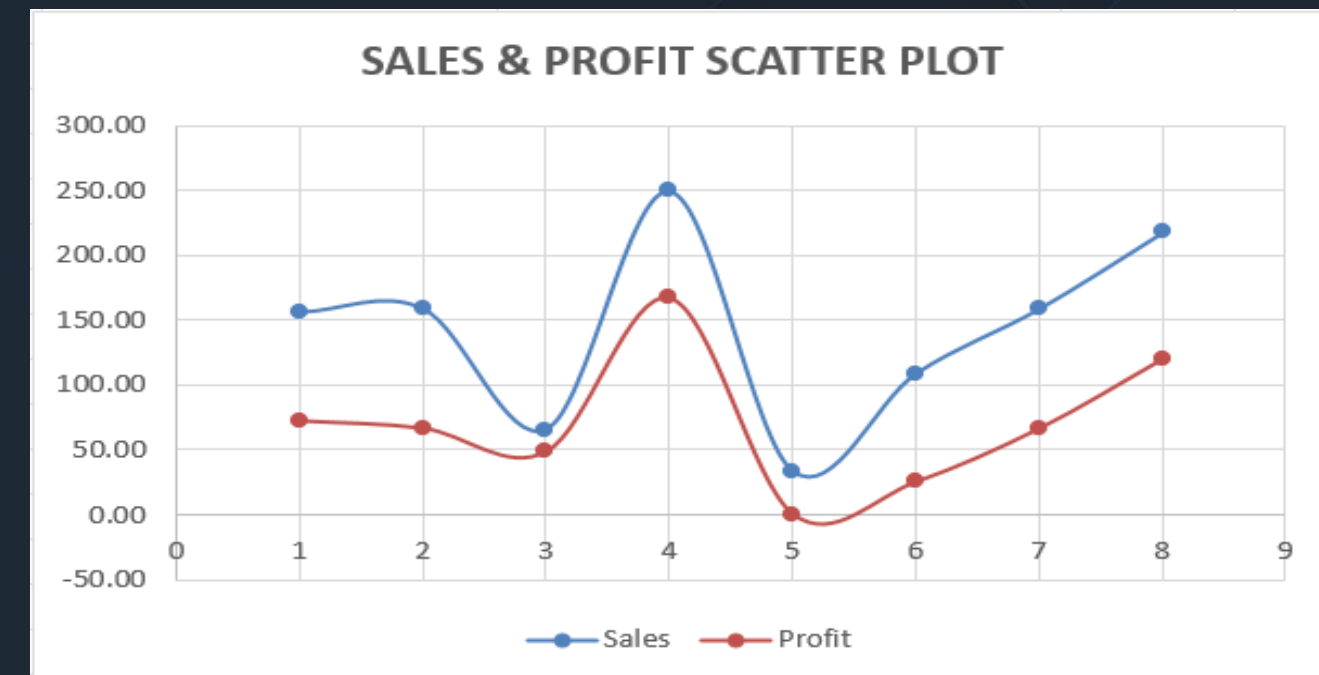
➤ There is also potential for growth in the Corporate and Home office segments with targeted strategies.

SALES & PROFIT BY CUSTOMER SEGMENT



STATISTICAL ANALYSIS

Summary statistics	Sales	Profit
Mean (Average)	156.43	72.72
Median	159.00	67.00
Standard Deviation	65.78	49.10
Maximum	250.00	167.50
Minimum	33.00	0.51
25th Percentile	109.00	25.73
50th Percentile	159.00	67.00
75th Percentile	218.00	120.56



- Sales values are relatively symmetrical with moderate variability. Whereas Profits are slightly skewed to the right with lower overall values compared to sales.
- Both sales and profit show considerable variation, indicating a diverse range of performance across different products or regions.
- The wide range in both sales and profit highlights the diversity in product performance and profitability.
- Majority of sales and profit values are clustered between the 25th and 75th percentiles, showing where the bulk of the data is concentrated.

E- COMMERCE SALES DASHBOARD

TOTAL SALES
\$ 8M

TOTAL PROFIT
\$ 3.7 M

PROFIT MARGIN
46.49%

AVERAGE ORDER
VALUE
\$ 156.43

TOTAL ORDERS
51290

Product Category

Auto & Accessories

Electronic

Fashion

Home & Furniture

Region

Africa

Canada

Caribbean

Central

Central Asia

East

EMEA

North

North Asia

Oceania

South

Southeast Asia

West

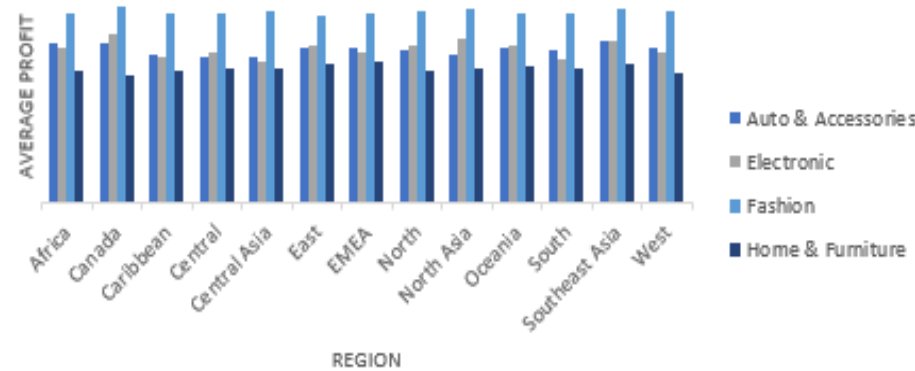
Segment

Consumer

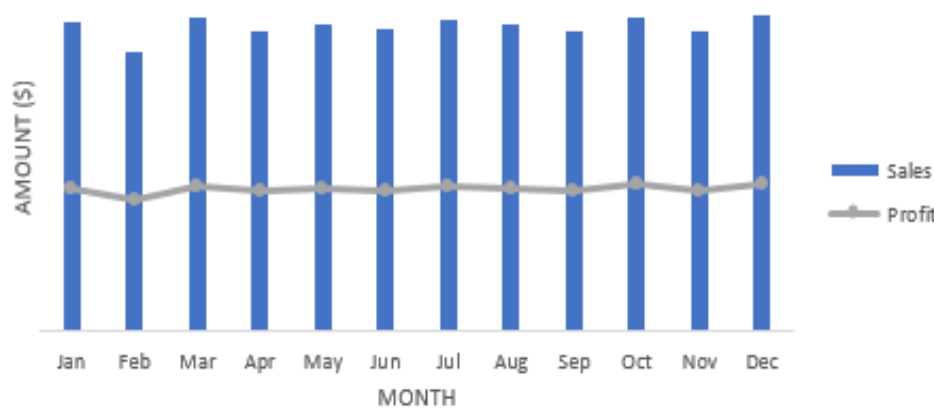
Corporate

Home Office

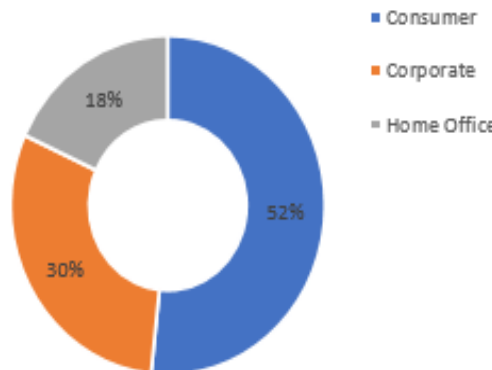
AVERAGE PROFIT BY CATEGORY & REGION



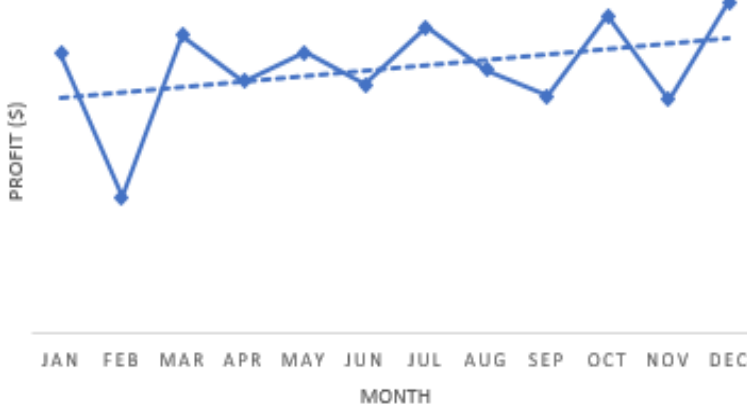
SALES & PROFIT BY MONTH



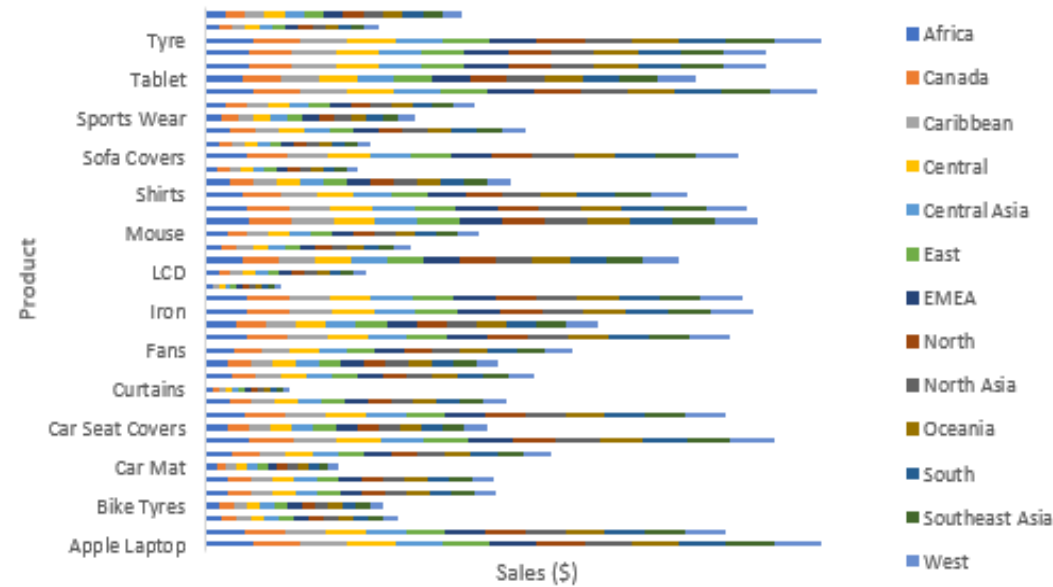
CUSTOMER SEGMENT DISTRIBUTION



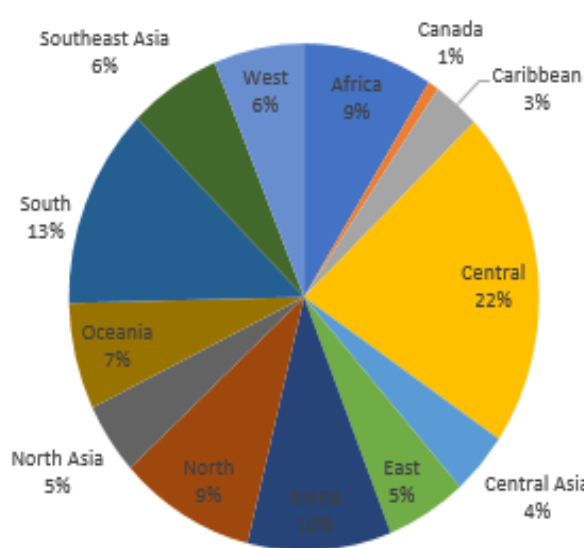
PROFIT BY MONTH



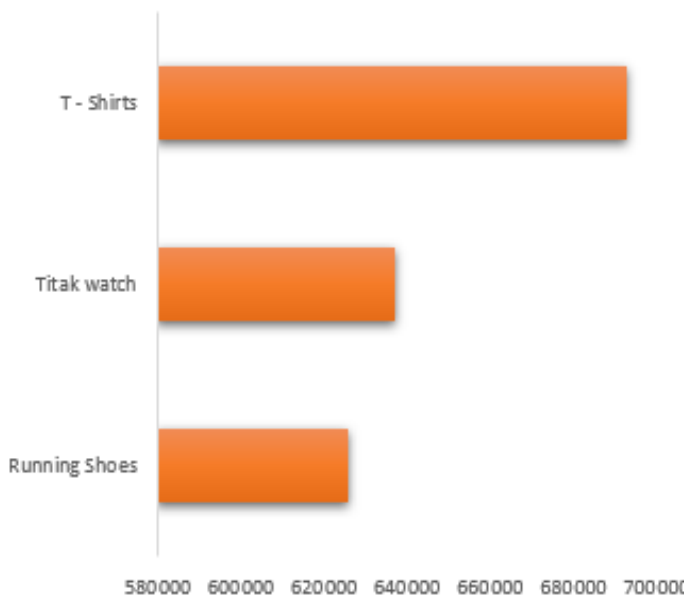
AVERAGE SALES BY PRODUCT & REGION



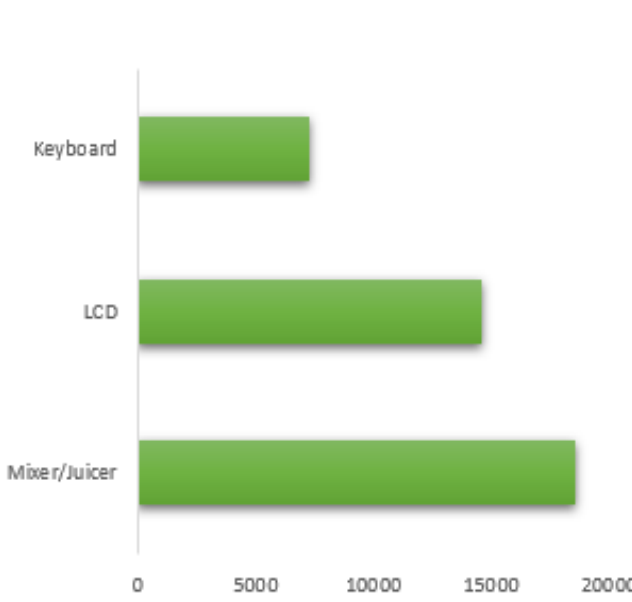
PROFIT BY REGION



TOP 3 PRODUCTS



BOTTOM 3 PRODUCTS



CONCLUSIONS & RECOMMENDATIONS

- Sales and Profit Trends: Peaks in December likely due to holiday shopping and year-end promotions.
- Regional Insights: Central region has the highest total profit due to high sales volume; the US dominates global sales and profit, followed by a sharp drop-off in other countries. Possible reasons for variation are due to economic conditions, consumer preferences, product availability, cultural factors, etc.
- Product Performance: Fashion leads in both quantity sold and average profit, indicating its higher demand. Moreover, the top 3 products (T-Shirts, Titak Watch, Running Shoes) belong to the Fashion Category.
- Higher sales in Fashion and Home & Furniture are driven by greater market demand, product variety, effective marketing, seasonal boosts, and consumer preferences compared to Electronics.
- Customer Segments: The Consumer segment is the largest contributor to sales and profit, indicating a strong market focus.
- Statistical Analysis: Both sales and profit show considerable variation, highlighting diverse product performance and profitability.
- To improve product and regional performance, focus on targeted marketing strategies, optimize supply chain efficiency, enhance customer engagement initiatives, and tailor product offerings to meet specific regional demands.

THANK YOU