

## Assignment Tasks:

### Task 1: Exploratory Data Analysis (EDA) and Business Insights

- 1- Sales display an increasing trend over time (as seen on the monthly sales chart). This only means sales exhibit healthy growth day with a y. Reason: continuous rise of monthly sales seen bespeaks that there exists no hint of maternal suggestion. Conclusion: several causes might contribute to this growth, such as growth in customer size, a strong marketing drive, or seasonality. More scrutiny is required to identify these drivers effectively in order to capitalize on them. Therefore, it is recommended that the business keeps close observation on such a trend and prepares itself to cater to the potential hike in demand.
- 2- An individual region, North America in the example script, contributes significantly more to total sales than all the other regions. This, in turn, suggests a strong market presence of the business in that region. Argument: The bar chart depicting sales by region shows that North America is way ahead in sales vis-à-vis immense trailing sales by other regions. Implications: The company needs to analyze the factors sustaining this high performance in North America and replicate in other regions. Besides, targeted marketing and sales efforts should be directed at the low contributors to boost their participation.
- 3- According to the number of transactions, a certain category highly leads others in terms of popularity. This idea points toward a big demand or require select products in the category. The bar chart depicting the frequency of transactions across different categories gives "Electronics" a clear cut leadership with the highest number of transactions. Suggestions: The company must list adequate stock for this category to cope with the massive demand. Moreover, they can stretch beyond this category to other similar product offerings or even find closely related products. This finding could also feed into inventory management strategies and pricing policies.
- 4- Higher prices for a product are considered as a result of the business's focus. Opposing this claim are different types of strategy-target prices. Products issued by the company come at prices that either outshadow those of its competitors or else become irresistible offers demanded by sheer necessity. Thus, there are a number of possible strategies for pricing. Prices would have to, however, be allowed by the market so as not to lose customers. Our company, at the moment, dwells wisely on the two remaining options, namely pricing according to the mainstream chosen above or below one's buying power.
- 5- The quantity of products sold positively correlates with the total transactional value sold. Explanation: The scatter plot shows a clear upward trend; as quantity increases, so does the value. Implication: While such a relationship is

generally expected, it is crucial to verify the proper function of the data. More importantly, this emphasizes the importance of strategies that would assist in raising the maximum number of purchased products on average per transaction(e.g., bundling offers and bulk discount).

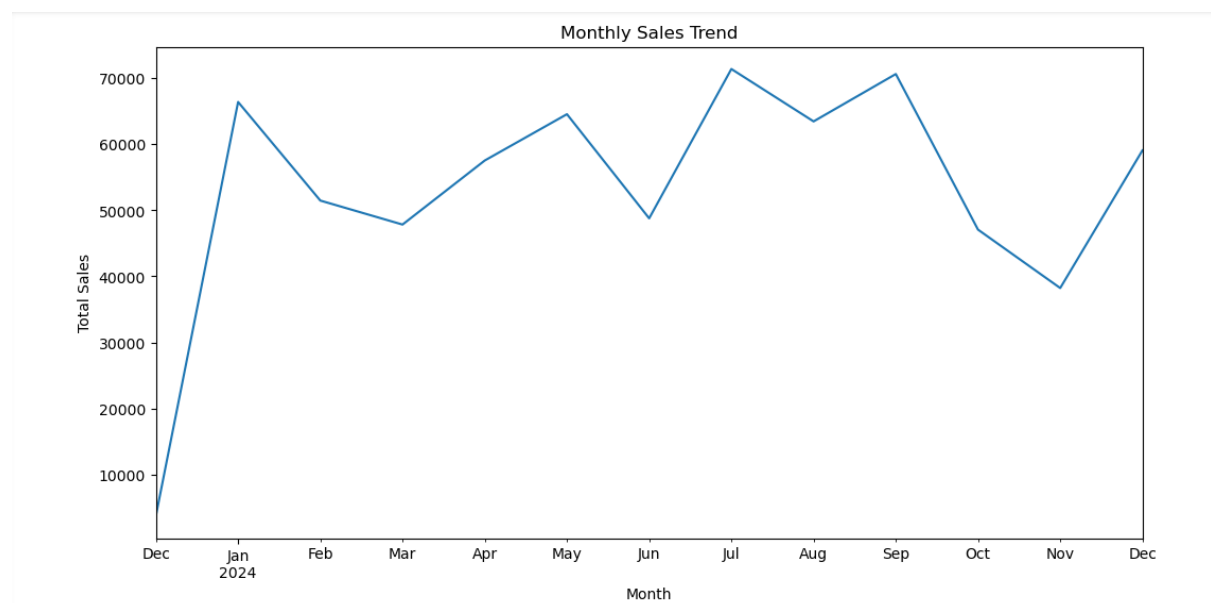
**Next Steps"** in a data analysis context refers to the recommended actions a business should take based on the insights gained from the analysis

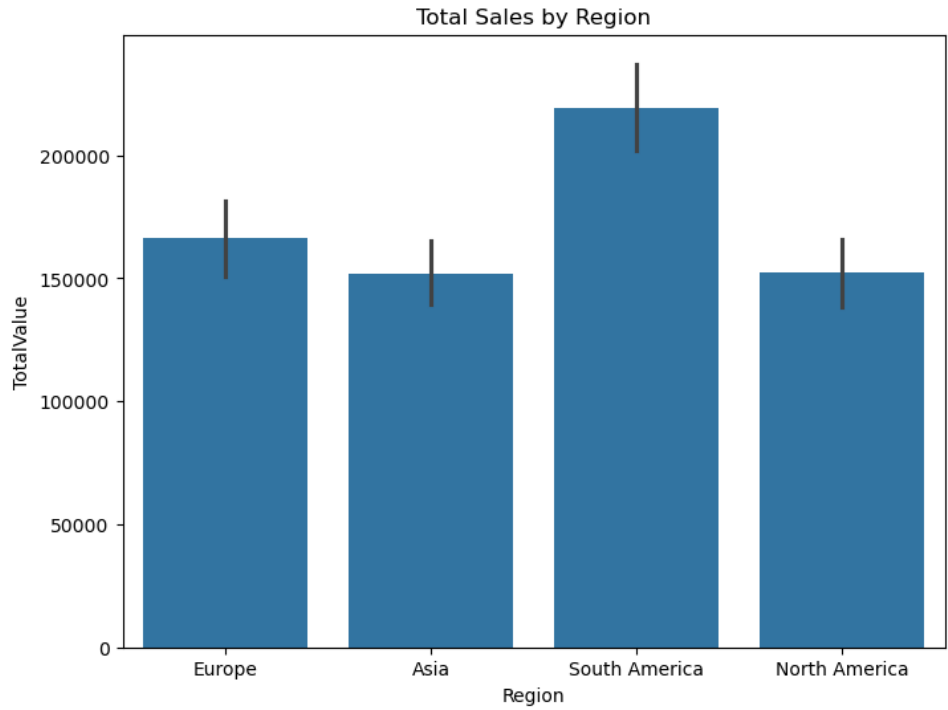
Further Investigation: Dive into certain things in context which have come to light so far. (Eg. Why is Southern region on the boom?)

Targeted Actions: When insight is extracted from the data analysis, specific actions ought to be weathered. (Eg. One says one's market campaign and product strategy combines the people's tremendous insight.)

Advanced Analysis: Upper-level analysis will entail more expert marketing questioning than in point (Customer Division, Market Basket Analysis).

## Business Insights





Top Selling Product Categories

