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Launchpad 2024 - Analytics Case Study

Case Study Brief:

Welcome to the Analytics case study! In this exercise, you will be working with a sample dataset representing sales transactions from a retail company. Your task is to demonstrate your SQL querying, analytical thinking, and data visualization skills to derive insights and recommendations for improving business performance.

Dataset Description:
The **attached dataset** contains information about sales transactions including order date, order number, warehouse ID, store ID, item ID, amount per unit, ordered quantity, item discount, and expected delivery date.

Tasks:

1. Data Exploration (30 minutes):

- Write SQL queries for the following tasks and provide a brief summary of key findings including:
    - Total number of orders
    - Total sales revenue
    - Average order quantity
    - Distribution of orders by warehouse and store
    - Top selling items

2. Analytical Questions (60 minutes):

- Answer the following analytical questions using SQL queries:
    1. What is the overall discount rate (average discount per item sold)?
    2. Which warehouse has the highest average order value (total sales revenue divided by number of orders)?
    3. What is the total revenue generated by each store?
    4. Identify the top 5 customers (based on total amount spent).
    5. Calculate the month-over-month growth rate of sales revenue.

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6. Determine the percentage of orders that were canceled.

3. Data Visualization (90 minutes):

- Choose a data visualization tool (e.g., Tableau, Power BI, or Python libraries like Matplotlib or Seaborn).
- Create visualizations to present insights from the data exploration and analytical questions.
- Visualizations should include:
    - Time series plot of sales revenue over time.
    - Bar chart showing total revenue by store.
    - Pie chart illustrating the distribution of orders by warehouse.
    - Any additional visualizations you deem relevant to showcase insights.

4. Insights and Recommendations (30 minutes):

- Based on your findings from the data exploration, analytical questions, and visualizations, provide insights into the business performance.
- Suggest actionable recommendations for the company to optimize sales and improve overall performance.
- Consider factors such as warehouse/store performance, customer behavior, and sales trends.

Conclusion:
Congratulations on completing the case study! We hope you found it challenging and insightful. This exercise tested your SQL querying, analytical thinking, and data visualization skills, which are crucial for success in the field of analytics. We look forward to reviewing your solutions and discussing them further during the interview process.

Submission Instructions:
Please submit your SQL queries, analysis, visualizations, and insights/recommendations in a presentation format. Ensure your submission is clear, well-organized, and includes all relevant details.

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If there are any questions and concerns, please feel free to email us at **shafaq.masood@bazaartech.com or duaa.kashif@bazaartech.com**. Good luck with the process!