Scenario: An E-commerce Company's Path to Sustainable Growth

Company Background:

An e-commerce company is experiencing various operational challenges that hinder its sustainable growth and customer satisfaction. To address these challenges, the company has decided to take a data-driven approach to optimize its key areas of operation.

Challenges and Objectives:

The company's core focus is on improving financial performance, gaining better customer insights, enhancing logistics and fulfillment processes, streamlining product management, and improving customer satisfaction. To achieve these goals, the company must analyze its current operations and identify the following specific issues:

Financial Performance:

The company needs to enhance its financial performance by analyzing total revenue.

It must identify top-selling products and calculate the average order value to better understand customer spending behavior.

Identifying peak sales periods will help in managing resources more efficiently.

Customer Insights:

Gaining a deep understanding of customer behavior is crucial. The company will analyze the top-performing locations and identify trends in order cancellations.

It will differentiate the behavior between B2B (business-to-business) and B2C (business-to-consumer) customers to tailor its marketing strategies.

Logistics and Fulfillment:

The company faces delays in order shipping and needs to streamline its logistics process. By calculating the average shipping time, it aims to improve delivery efficiency.

Evaluating the percentage of orders fulfilled by Amazon versus Merchant will provide insights into fulfillment methods and their efficiency.

Product Management:

To boost sales, the company needs to identify popular product categories and analyze the average quantity ordered for better inventory management.

Customer Satisfaction and Returns:

High return and cancellation rates are affecting customer satisfaction. The company plans to analyze these rates and identify problematic products or categories to address quality issues.

Table Content

● Order ID: A unique identifier assigned to each order placed in the e-commerce system.

● Date : Date on which product ordered.

● Status : Current status of the order (e.g., Shipped, Cancelled, Delivered to Buyer, etc.)

● Fulfillment: Describes how the order was fulfilled(e.g., Amazon, Merchant)

● Sales Channel : The platform through which the sale was made(e.g., Amazon.in)

● ship-service-level : Shipping service level (e.g., Standard, Expedited)

● Style : Style of the product

● SKU : Specific identifiers used for stock keeping and product design.

● Category : Category of the product

● Size : Size of the product

● Quantity : The number of units of the product ordered

● currency : The currency used for the transaction.

● Amount : Amount of the transaction

● ship-city, ship-state, ship-country: Details about the location to which the product was shipped.

● ship-postal-code: Postal code where the product was shipped.

● promotion_ids : Promotion IDs if any

● B2B : A boolean indicating whether the order is Business-to-Business (B2B)

● fulfilled_by : Who fulfilled the shipping (e.g., Easy Ship)

Data Analysis Steps:

The company has a dataset that it will use to derive actionable insights. The analysis will proceed as follows:

Step 1: Analyze the provided dataset to understand the current state of operations.

Step 2: Cleanse the dataset by replacing any null values in the 'Amount' column with the median of the available data, ensuring more accurate analysis.

Step 3: Conduct an in-depth analysis addressing the aforementioned challenges, focusing on areas such as total revenue, customer behavior, shipping efficiency, and return rates.

Step 4: Once the analysis is complete, proceed to solve multiple-choice questions (MCQs) to test the understanding and application of the covered material.

Outcome:

By conducting this comprehensive analysis, the company aims to make informed decisions, streamline operations, and implement strategies that will lead to increased revenue, better customer satisfaction, and a competitive edge in the retail landscape.