PRODUCT SALES ANALYSIS

DATA ANALYTICS WITH COGNOS GROUP 2

PROBLEM STATEMENT:

In order to optimize inventory management and marketing strategies, our organization is faced with the challenge of effectively analyzing sales data. We need to identify top-selling products, discern peak sales periods, and understand customer preferences. This analysis is critical for making data-driven decisions that will ultimately lead to increased revenue, reduced costs, and improved customer satisfaction.

OBJECTIVES:

The objectives of conducting a product sales analysis are to gain valuable insights into your business's sales performance, customer behavior, and market trends. By setting clear objectives, you can focus your analysis efforts effectively.

Identify the goods or product groups that produce the highest sales revenue, volume, and profit margins. Prioritizing resources and marketing initiatives is aided by this knowledge.

Examine customer information to determine preferences, including preferred items, shopping habits, demographics, and geography. Marketing and product recommendations might be targeted with the help of this information.

Utilize sales data to better control inventory levels to optimize inventory management. As part of this, slow-moving items must be identified, reorder points must be optimized, and carrying costs must be decreased without stockouts.

Recognize seasonality, daily or weekly swings, and market dynamics in sales data. This facilitates preparing promotions and adjusting inventories as necessary.

DESIGN THINKING:

Design thinking is a user-centric, iterative problem-solving approach that can be applied to the process of product sales analysis to ensure that the analysis addresses the specific needs of your business and its customers.

Step1: Clearly define the problem

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Step2: Data collection

Use appropriate data as per the problem defined in the problem statement.

Step3: Preparing of the data

Data is gathered, and thenThe data should be cleaned and pre-processed to deal with missing values, outliers, and inconsistencies. To provide the model useful information, add new features or change current ones. For the purposes of training and assessing your model, divide the dataset into training, validation, and test sets.

STEP 4 Exploratory Data Analysis (EDA):

Perform initial data exploration to understand the basic characteristics of the sales data. Create visualizations like histograms, scatter plots, and time series graphs to identify trends, patterns, and outliers.

STEP 5 Define Objectives:

Clearly define the objectives and goals of your sales analysis. What specific insights are you seeking to gain from the analysis?

STEP 6 Top-Selling Products Analysis:

Calculate and rank products based on sales revenue, units sold, or profit margins to identify top-selling products. Analyze which products consistently perform well and whether there are seasonal variations.

STEP 7 Peak Sales Periods Analysis:

Examine sales data over time to identify peak sales periods, such as daily, weekly, or seasonally. Consider factors like holidays, promotions, and special events that influence sales peaks.

STEP 8 Customer Preferences Analysis:

Segment your customer base based on demographics, purchase history, and behavior.
Analyze which products are preferred by different customer segments. Use clustering and association analysis to discover customer preferences and buying patterns.

STEP 9 Reporting and Visualization:

Develop dashboards and reports to track key metrics and insights.Use data visualization tools to communicate findings to stakeholders effectively.