Toronto Metropolitan University

LEVERAGING DATA ANALYTICS FOR SALES OPTIMIZATION AND REVENUE GROWTH

Project Proposal

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PROBLEM:

In the intensely competitive world of online retailing, organizations like Amazon must determine which product aspects drive sales performance. When assessing how well a product sells, factors including pricing, customer rating, product category, and discount are critical. The difficulty, though, is in properly evaluating these variables to produce better choices that increase revenue and satisfy customers.

The objective of this project is to determine which product attributes such as category, price, rating, and discount have the most effects on the performance of sales. Additionally, we want to know how to best optimize discount percentages to maximize customer ratings and sales volume across a range of product categories.

SOLUTIONS:

To solve the problem of understanding which product features impact sales and how to optimize discount percentages, we will analyze Amazon sales data to uncover patterns and insights. Here's how we plan to approach it:

Analyzing Key Product Features: To begin, we'll examine how various product attributes, such as category, price, rating, and discount, affect sales. By analyzing the data, we can determine which characteristics have the greatest influence on sales and assist companies in concentrating on the most important aspects of various product categories.

Optimizing Discounts: To determine the ideal discount amounts, we'll investigate the connection between discounts and customer ratings. Striking the correct balance between providing discounts that increase sales and maintain customer pleasure is the aim. In this manner, Amazon will be able to implement the best discounting techniques for any product category.

Identifying Customer Choices: We may learn about the likes and dislikes of our customers by looking at their ratings. Amazon can use this knowledge to better customize their advertising and promotional efforts to the demands of their customers, which will enhance their overall shopping experience.

Efficient Inventory Management: Amazon can cut down on slow-moving inventory volume, get rid of unsold or low-selling product categories, and save money by strategically discounting excess stock holding.

DATASET DESCRIPTION:

The Amazon Sales Dataset (https://www.kaggle.com/datasets/ahmedsayed564/amazon-sales-dataset)) is the dataset that we will be using. It includes significant information about pricing, ratings, and discounts, as well as sales success for a variety of products offered on Amazon.

Key attributes we will focus on for the analysis include:

Product ID: A unique identifier for each product.

Product Name: The name of the product.

Category: The category or type of product.

Discounted Price: The price of the product after applying discounts.

Actual Price: The original price of the product before any discounts.

Discount Percentage: The percentage discount applied to the product.

Rating: The customer rating of the product.

Rating Count: The number of ratings a product has received.

These attributes will be critical in uncovering relationships between product features and sales performance. This will allow us to derive practical insights to optimize sales strategies across different product categories.