📦 Amazon Product Review Analysis Dashboard

📌 Project Overview

This project is an end-to-end data analytics capstone project focused on analysing Amazon product reviews to uncover customer behaviour, product performance, and review trends.

Using Microsoft Excel, I performed data cleaning, exploratory analysis, and built an interactive dashboard to answer key business questions and support data-driven decision-making.

The data used for the project was provided by Incubator Hub as resource for the Capstone Project used as prerequisite for graduating from the DSA cohort class

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🎯 Objectives

- Analyse customer review patterns and product ratings

- Identify high-performing and low-performing products

- Understand how reviews influence product perception

- Create a dashboard that provides clear, actionable insights

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🗂️ Dataset Description

The dataset contains Amazon product review data, including:

- Customer Name
- Product Category
- Price
- Discount
- Customer Ratings
- Review counts
- Customer Engagements: User Reviews, Title and Content

❓ Business Questions Answered

The analysis addresses 14 key business questions, including:

1. What is the average discount percentage by product category?
2. How many products are listed under each category?

3. What is the total number of reviews per category?
4. Which products have the highest average ratings?
5. What is the average actual price vs the discounted price by category?

6. Which products have the highest number of reviews?

7. How many products have a discount of 50% or more?

8. What is the distribution of product ratings (e.g., how many products are rated 3.0, 4.0, etc.)?

9. What is the total potential revenue (actual_price × rating_count) by category?

10. What is the number of unique products per price range bucket (e.g., <₹200, ₹200–₹500, >₹500)?

11. How does the rating relate to the level of discount?
12. How many products have fewer than 1,000 reviews?
13. Which categories have products with the highest discounts?
14. Identify the top 5 products in terms of rating and number of reviews combined.

Each question is answered using pivot tables, charts, and summary metrics.

📊 Dashboard Features

The Excel dashboard provides:

- 📈 Rating distribution visuals

- 📊 Product and category performance comparison

- 🔍 Quick insights using slicers and filters

- 📌 KPIs for reviews and ratings

The dashboard enables interactive exploration of the data without technical expertise.

🛠️ Tools & Technologies

- Microsoft Excel

    - Pivot Tables

    - Pivot Charts

    - Slicers

    - Conditional Formatting

- Data Analytics Techniques

    - Data cleaning

    - Aggregation

    - Descriptive statistics

    - Business insight generation

🔑 Key Insights

- A small number of products account for a large proportion of total reviews i.e Computers and Accessories, Electronics, Home and kitche

- Higher review counts tend to correlate with better product visibility

- Certain categories consistently outperform others in customer ratings, and certain products have a very perfect review of 5.0; "Syncwire Ltg To Usb Cable For, Redtech Usb-C To Lightning Cab, Amazon Basics Wireless Mouse"

- Rating distributions reveal customer satisfaction trends across products

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