Amazon Sales Performance Dashboard

Tool: Microsoft Power BI
Focus: Sales, Profitability & Product Performance Analytics

1. Project Overview

This project presents a comprehensive **Amazon-style sales analytics dashboard** designed to support business decision-making in an e-commerce environment. The dashboard provides a structured overview of revenue, profitability, marketplace performance, and individual product behavior.

The objective was not only to visualize sales data, but to **transform incomplete and imperfect raw data into actionable insights** through proper data modeling, DAX measures, and clean dashboard design.

The final result is a **multi-page, interactive Power BI dashboard** suitable for management-level reporting, performance monitoring, and portfolio demonstration.

2. Business Questions Answered

The dashboard was built to answer key commercial and operational questions typically faced by e-commerce and marketplace-driven businesses:

- Which marketplaces generate the highest revenue and profit?
- Which products contribute most to profitability versus volume?
- How do discounts and costs affect profit margins?
- Which categories underperform despite strong sales?
- How does performance evolve over time across marketplaces?

These questions were translated into KPIs, comparative visuals, and trend analyses across multiple dashboard pages.

3. Data & Modeling Challenges

The dataset used in this project intentionally reflected **realistic challenges often encountered in business environments**, including:

- No pre-defined **Profit** or **COGS** columns
- Discount and tax values initially missing or set to zero
- Identical quantities across categories due to raw data structure
- Lack of product-level attributes required for deeper analysis

To resolve these issues, the data had to be **enriched, simulated, and logically corrected** to avoid misleading insights. This step was critical to ensure that all visuals reflected realistic Amazon-like sales behavior rather than mechanically aggregated values.

4. Data Preparation (Power Query)

All structural transformations were handled in **Power Query** to prepare a reliable data model before analysis.

Key preparation steps included:

- Cleaning and standardizing raw sales data
- Creating additional attributes such as product categories and weights
- Normalizing marketplace and date fields
- Preparing product identifiers to support future image integration

By handling these transformations upstream, the data model remained clean, efficient, and scalable.

5. Data Modeling & DAX Measures

Core KPIs were implemented using **DAX measures** rather than calculated columns to ensure correct aggregation and dynamic behavior across filters.

Key measures included:

- Total Revenue
- Profit (derived from revenue and cost logic)
- Profit Margin
- Average Order Value (AOV)
- Quantity Sold

Special attention was paid to **filter context**, ensuring that all measures responded correctly to slicers, marketplace selections, and product-level views. This distinction between **Power Query transformations** and **DAX calculations** was essential for accuracy and performance.

6. Dashboard Design & UX Decisions

The dashboard was designed following **clear layout and UX principles** to ensure readability and professional presentation:

- A **4-page structure**:
    - Overview
    - Marketplace & Operations
    - Product Performance
    - Product Deep-Dive
- Pixel-perfect alignment with consistent spacing
- Amazon-inspired color palette for brand familiarity
- Navigation buttons for intuitive page flow
- Avoidance of redundant visuals across pages

Design decisions prioritized clarity, consistency, and decision-making efficiency rather than visual clutter.

7. Outcome & Use Cases

The final dashboard enables stakeholders to:

- Identify high- and low-performing marketplaces
- Detect products with high revenue but low profitability
- Evaluate the impact of pricing and discount strategies
- Support decisions related to inventory, promotions, and product focus

This project demonstrates an **end-to-end analytics workflow**, from raw data challenges to executive-ready insights, making it suitable for both real-world business use and professional portfolio presentation.