

## Phase 1: Initial Dataset Structure (Raw Data)

At this stage, transactional sales records were gathered into a spreadsheet format to centralize data from the beginning of the fiscal period. The primary goal was to establish a foundational database to evaluate commercial performance across different dimensions.

Dataset Key Components:

- Product Segmentation: The data tracks core categories including Shoes, Apparel, and Accessories.
- Transactional Metrics: Each entry captures the specific units sold (Quantity), the unit Price, and the calculated gross Revenue.
- Operational Variables: The dataset includes columns to identify the sales Channel (Online) and the transaction Status, providing a baseline for order tracking.
- Temporal Attributes: The original file featured a date column and a period identifier (Month) intended for chronological grouping in pivot tables.

order_id	order_date	customer_id	product	category	quantity	price	channel	status	revenue	month
1001	5/1/2024	C01	Sneakers	Shoes	2	50	Online	Completed	100	2024-01
1002	7/1/2024	C02	Hoodie	Apparel	1	70	Online	Completed	70	2024-01
1003	8/1/2024	C03	Cap	Accessories	1	25	Online	Completed	25	2024-01
1004	10/1/2024	C04	Sneakers	Shoes	3	50	Online	Completed	150	2024-01
1005	12/1/2024	C05	T-Shirt	Apparel	1	30	Online	Incompleted	30	2024-01
1006	15/1/2024	C06	Backpack	Accessories	2	90	Online	Incompleted	180	2024-01
1007	2/2/2024	C07	Hoodie	Apparel	1	70	Online	Incompleted	70	2024-02
1008	4/2/2024	C08	Sneakers	Shoes	1	50	Online	Incompleted	50	2024-02
1009	9/2/2024	C09	Cap	Accessories	2	25	Online	Completed	50	2024-02
1010	10/2/2024	C10	T-Shirt	Apparel	3	30	Online	Completed	90	2024-02
1011	14/2/2024	C11	Backpack	Accessories	2	90	Online	Completed	180	2024-02
1012	17/2/2024	C12	Hoodie	Apparel	1	70	Online	Completed	70	2024-02

## Phase 2: Data Engineering & Optimization

Following the initial data collection, I performed a structural overhaul of the dataset to ensure it met professional reporting standards. This phase focused on enhancing data granularity and establishing high-integrity filtering capabilities.

Key Technical Enhancements:

- **Granular Traceability:** Integrated unique identifiers including **Order ID** and **Customer ID** to enable deep-dive analysis of customer behavior and order frequency.
- **Temporal Standardization:** Implemented a standardized `order_date` column, ensuring all timestamps were accurately synchronized with the 2024 fiscal year for precise Month-over-Month (MoM) comparisons.
- **Table Object Conversion:** Converted the raw range into an official **Excel Table object**. This allows for dynamic data ranges, automated formatting, and structured referencing for more reliable Pivot Table reporting.

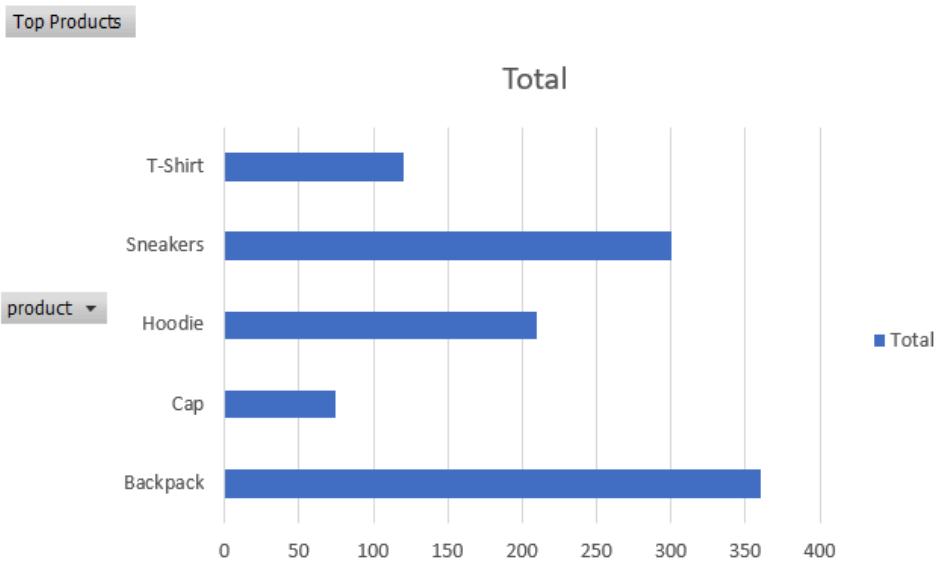
- **Validation Framework:** Refined the `status` and `month` columns to serve as primary filters, ensuring that final revenue insights represent only "Completed" transactions from the intended periods.

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## 1. Revenue Trend Analysis (Image 1)

This chart displays the **Sum of Revenue** comparing January and February 2024.

- **January (2024-01):** High performance at approximately **555 units**.
- **February (2024-02):** A noticeable decline to approximately **510 units**.
- **KPI Insight:** There is a **Month-over-Month (MoM) decrease of ~8.1%**.
- **Observation:** The business is experiencing a post-January "slump." It is crucial to investigate if this is due to seasonality, reduced marketing spend, or stockouts following a busy start to the year.



## 2. Product Portfolio Performance (Image 2)

This horizontal bar chart breaks down the total sales by product category.

Product	Estimated Sales	Status
Backpack	~360	Market Leader
Sneakers	~300	High Performer
Hoodie	~210	Mid-Tier
T-Shirt	~120	Low Performer
Cap	~75	Underperformer

**Pareto Principle (80/20):**  
Top two products  
**(Backpacks and Sneakers)**  
drive the vast majority of the revenue.

**Category Gap:** There is a significant performance gap between "Hard Goods" (Backpacks/Shoes) and "Soft Goods" (Apparel/Caps).

Immediate Actions (Revenue Recovery):

- **Bundle Strategy:** Create a "Student/Travel Bundle." Pair a high-selling **Backpack** with a low-selling **Cap** or **T-Shirt** at a 15% discount to clear slow-moving inventory.
- **Sneaker Campaigns:** Since Sneakers are the second-best seller, launch a "New Season" campaign in March to reverse the February downward trend.

Long-Term Strategy:

- **Product Development:** Analyze the **Cap** and **T-Shirt** categories. If margins are low and sales continue to stagnate, consider reducing the SKU count or redesigning the line.
- **Retention:** Implement a loyalty program for **Sneaker** buyers, as they typically have a higher "Lifetime Value" (LTV) than one-time accessory buyers.

