

# SUPERSTORE SALES & PROFIT ANALYSIS, DASHBOARD (EXCEL)

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## Project Overview

This project focuses on analyzing retail sales data to understand overall business performance, profit trends, return impact, and regional contributions. The solution includes data cleaning, transformation, pivot-based analysis, and an interactive management dashboard built in Excel.

## Dataset Information

The dataset was sourced from Kaggle and contains three related tables:

**Orders** – Sales transactions, products, customers, and profit data

**Returns** – Information about returned orders

**People** – Region-wise responsible managers

## Data Preparation & Cleaning

Row	Order ID	Order Date	Ship Date	Ship Mode	Customer ID	Customer Name	Segment	Country	City	State	Postal Code	Region	Product ID	Category	Sub-Category	Product Name	Sales	Quantity	Discount	Profit	
1	CA-2016-152156	08/11/2016	11/11/2016	Second Class	CG-12520	Claire Gute	Consumer	United States	Henderson	Kentucky	42420	South	FUR-BO-100C	Furniture	Bookcases	Bush Somers	261.96	2	0	41.9136	
2	CA-2016-152156	08/11/2016	11/11/2016	Second Class	CG-12520	Claire Gute	Consumer	United States	Henderson	Kentucky	42420	South	FUR-CH-100C	Furniture	Chairs	Hon Deluxe F	731.94	3	0	219.582	
3	CA-2016-138688	12/06/2016	16/06/2016	Second Class	DV-13045	Darrin Van H	Corporate	United States	Los Angeles	California	90036	West	OFF-LA-1000	Office Suppli	Labels	Self-Adhesive	14.62	2	0	6.8714	
4	US-2015-108966	11/10/2015	18/10/2015	Standard Clas:	SO-20335	Sean O'Donn	Consumer	United States	Fort Lauderdale	Florida	33311	South	FUR-TA-1000	Furniture	Tables	Bretford CR4	957.5775	5	0.45	-383.031	
5	US-2015-108966	11/10/2015	18/10/2015	Standard Clas:	SO-20335	Sean O'Donn	Consumer	United States	Fort Lauderdale	Florida	33311	South	OFF-ST-1000	Office Suppli	Storage	Eldon Fold 'N	22.368	2	0.2	2.5164	
6	CA-2014-115812	09/06/2014	14/06/2014	Standard Clas:	BH-11710	Brosina Hoff	Consumer	United States	Los Angeles	California	90032	West	FUR-FU-1000	Furniture	Furnishings	Eldon Express	48.86	7	0	14.1694	
7	CA-2014-115812	09/06/2014	14/06/2014	Standard Clas:	BH-11710	Brosina Hoff	Consumer	United States	Los Angeles	California	90032	West	OFF-AR-1000	Office Suppli	Art	Newell 322	7.28	4	0	1.9656	
8	CA-2014-115812	09/06/2014	14/06/2014	Standard Clas:	BH-11710	Brosina Hoff	Consumer	United States	Los Angeles	California	90032	West	TEC-PH-1000	Technology	Phones	Mitel 5320 IP	907.152	6	0.2	90.7152	
9	CA-2014-115812	09/06/2014	14/06/2014	Standard Clas:	BH-11710	Brosina Hoff	Consumer	United States	Los Angeles	California	90032	West	OFF-BI-1000	Office Suppli	Binders	DXL Angle-Vi	18.504	3	0.2	5.7825	
10	CA-2014-115812	09/06/2014	14/06/2014	Standard Clas:	BH-11710	Brosina Hoff	Consumer	United States	Los Angeles	California	90032	West	OFF-AP-1000	Office Suppli	Appliances	Belkin F5C20	114.9	5	0	34.47	
11	CA-2014-115812	09/06/2014	14/06/2014	Standard Clas:	BH-11710	Brosina Hoff	Consumer	United States	Los Angeles	California	90032	West	FUR-TA-1000	Furniture	Tables	Chromcraft R	1706.184	9	0.2	85.3092	
12	CA-2014-115812	09/06/2014	14/06/2014	Standard Clas:	BH-11710	Brosina Hoff	Consumer	United States	Los Angeles	California	90032	West	TEC-PH-1000	Technology	Phones	Kontrol 250 C	911.424	4	0.2	68.3568	
13	CA-2014-115812	09/06/2014	14/06/2014	Standard Clas:	BH-11710	Brosina Hoff	Consumer	United States	Los Angeles	California	90032	West	OFF-PA-1000	Office Suppli	Paper	Xerox 1967	15.552	3	0.2	5.4432	
14	CA-2017-114412	15/04/2017	20/04/2017	Standard Clas:	AA-10480	Andrew Allen	Consumer	United States	Concord	North Carolina	28027	South	OFF-PA-1000	Office Suppli	Paper	Xerox 1967	15.552	3	0.2	5.4432	
15	CA-2016-161389	05/12/2016	10/12/2016	Standard Clas:	IM-15070	Irene Maddo	Consumer	United States	Seattle	Washington	98103	West	OFF-BI-1000	Office Suppli	Binders	Fellowes PB2	407.976	3	0.2	132.5922	
16	US-2015-118983	22/11/2015	26/11/2015	Standard Clas:	HP-14815	Harold Pawla	Home Office	United States	Fort Worth	Texas	76106	Central	OFF-AP-1000	Office Suppli	Appliances	Holmes Repli	68.81	5	0.8	-123.858	
17	US-2015-118983	22/11/2015	26/11/2015	Standard Clas:	HP-14815	Harold Pawla	Home Office	United States	Fort Worth	Texas	76106	Central	OFF-BI-1000	Office Suppli	Binders	Storex DuraT	2.544	3	0.8	-3.816	
18	CA-2014-105893	11/11/2014	18/11/2014	Standard Clas:	PK-19075	Pete Krik	Consumer	United States	Madison	Wisconsin	53711	Central	OFF-ST-1000	Office Suppli	Storage	Stur-D-Stor SI	665.88	6	0	13.3176	
19	CA-2014-167164	13/05/2014	15/05/2014	Second Class	AG-10270	Alejandro Grc	Consumer	United States	West Jordan	Utah	84084	West	OFF-ST-1000	Office Suppli	Storage	Fellowes Sup	55.5	2	0	9.99	
20	CA-2014-443336	27/08/2014	01/09/2014	Second Class	ZD-21925	Zuschuss Dor	Consumer	United States	San Francisco	California	94109	West	OFF-AR-1000	Office Suppli	Art	Newell 341	8.56	2	0	2.4824	
21	CA-2014-443336	27/08/2014	01/09/2014	Second Class	ZD-21925	Zuschuss Dor	Consumer	United States	San Francisco	California	94109	West	TEC-PH-1000	Technology	Phones	Cisco SPA 50	213.48	3	0.2	16.011	
22	CA-2014-443336	27/08/2014	01/09/2014	Second Class	ZD-21925	Zuschuss Dor	Consumer	United States	San Francisco	California	94109	West	OFF-BI-1000	Office Suppli	Binders	Wilson Jones	22.72	4	0.2	7.384	
23	CA-2016-137330	09/12/2016	13/12/2016	Standard Clas:	KB-16585	Ken Black	Corporate	United States	Fremont	Nebraska	68025	Central	OFF-AR-1000	Office Suppli	Art	Newell 318	19.46	7	0	5.0596	
24	CA-2016-137330	09/12/2016	13/12/2016	Standard Clas:	KB-16585	Ken Black	Corporate	United States	Fremont	Nebraska	68025	Central	OFF-AP-1000	Office Suppli	Appliances	Acco Six-Out	60.34	7	0	15.6884	
25	US-2017-156909	16/07/2017	18/07/2017	Second Class	SF-10270	Sandra Flana	Consumer	United States	Philadelphia	Pennsylvania	19140	East	FUR-CH-100C	Furniture	Chairs	Global Delux	71.372	2	0.3	-1.0196	
26	CA-2015-106320	25/09/2015	30/09/2015	Standard Clas:	EB-13870	Emily Burns	Consumer	United States	Orem	Utah	84057	West	FUR-TA-1000	Furniture	Tables	Bretford CR4	1044.63	3	0	240.2649	
27	CA-2016-121755	16/01/2016	20/01/2016	Second Class	EH-13945	Eric Hoffman	Consumer	United States	Los Angeles	California	90049	West	OFF-BI-1000	Office Suppli	Binders	Wilson Jones	11.648	2	0.2	4.2224	
28	CA-2016-121755	16/01/2016	20/01/2016	Second Class	EH-13945	Eric Hoffman	Consumer	United States	Los Angeles	California	90049	West	TEC-AC-1000	Technology	Accessories	Imation 8GB	90.57	3	0	11.7741	
29	US-2015-150630	17/09/2015	21/09/2015	Standard Clas:	TB-21520	Tracy Blumst	Consumer	United States	Philadelphia	Pennsylvania	19140	East	FUR-BO-100C	Furniture	Bookcases	Riverside Pal	3083.43	7	0.5	-1665.0522	
30	US-2015-150630	17/09/2015	21/09/2015	Standard Clas:	TB-21520	Tracy Blumst	Consumer	United States	Philadelphia	Pennsylvania	19140	East	OFF-BI-1000	Office Suppli	Binders	Avery Recycl	9.618	2	0.7	-7.0532	
31	US-2015-150630	17/09/2015	21/09/2015	Standard Clas:	TB-21520	Tracy Blumst	Consumer	United States	Philadelphia	Pennsylvania	19140	East	FUR-FU-1000	Furniture	Furnishings	Howard Mille	124.2	3	0.2	15.525	
32	US-2015-150630	17/09/2015	21/09/2015	Standard Clas:	TB-21520	Tracy Blumst	Consumer	United States	Philadelphia	Pennsylvania	19140	East	OFF-EN-1000	Office Suppli	Equipment	Poly Station Ti	3.364	2	0.2	1.1016	

Figure 1 Raw Dataset Before Analysis.

- Standardized date and numerical formats
- Identified logical duplicates using **Order ID + Product ID**
- Aggregated duplicate records to ensure accurate totals
- Linked Returns and People tables with Orders
- Created calculated columns:
  - Profit Margin
  - Order Year
  - Return Flag
- Final cleaned dataset structured as **Master Data**

The screenshot shows two Microsoft Excel spreadsheets side-by-side. Both are titled 'Working file.xlsx'. The top spreadsheet contains 32 rows of order data, with columns including Row ID, Order ID, Order Date, Ship Date, Ship Mode, Customer ID, Customer Name, Segment, Country, City, State, Postal Code, Region, Product ID, Category, Sub-Category, and Prod. The bottom spreadsheet contains 30 rows of product data, with columns including Sub-Category, Product Name, Sales, Quantity, Discount, Profit, Returned, Regional Manager, Profit Margin, and Year. Both spreadsheets use conditional formatting to highlight specific values, such as negative profits or specific managers.

Figure 2&3: Cleaned Dataset After Calculate Important Matrixes and Conditional Formatting.

## Analysis Performed

The following analyses were conducted using Pivot Tables:

- Overall Sales & Profit Summary
- Category and Sub-Category Performance
- Regional Sales & Profit Comparison
- Customer Segment Analysis
- Returned vs Non-returned Orders Comparison
- Return Rate Calculation
- Regional Performance by Manager
- Year-wise Sales Trend

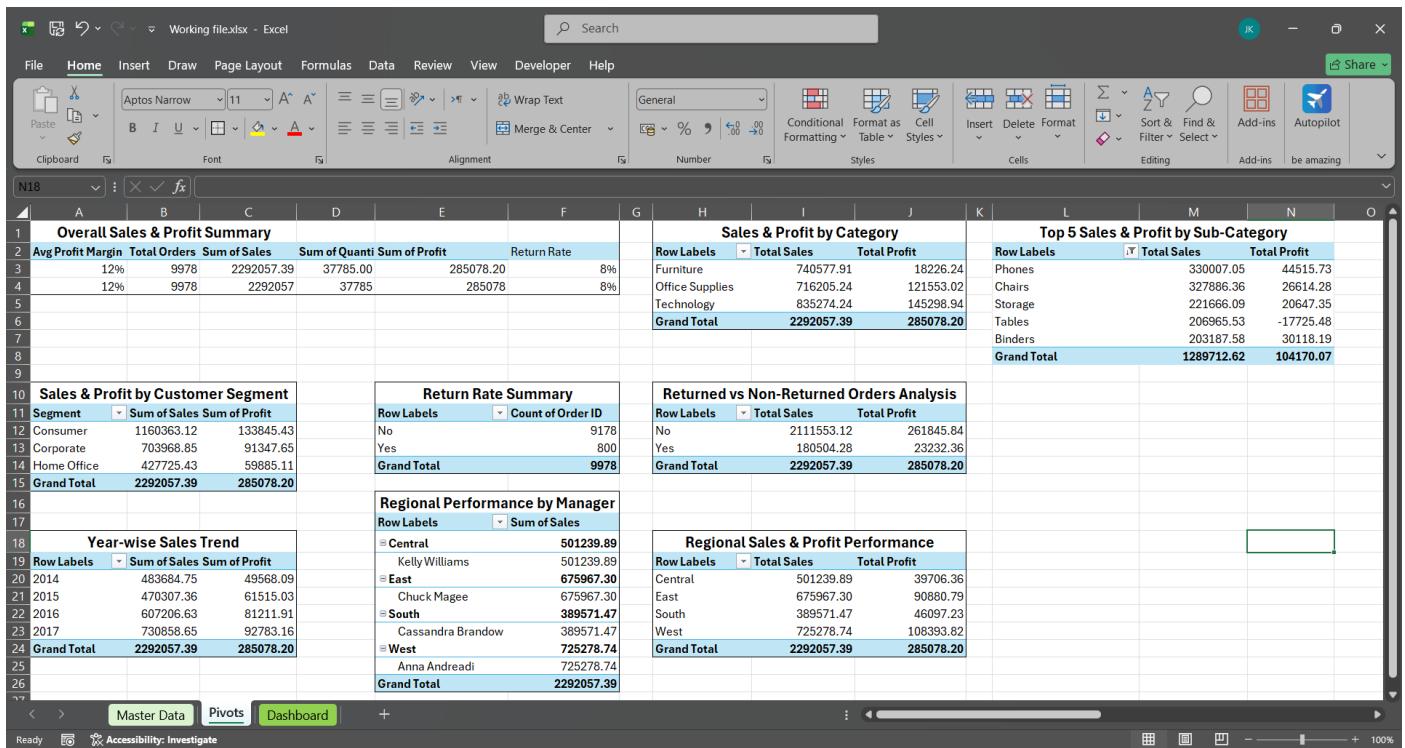


Figure 3 Pivot-based Business Analysis

## Key Performance Indicators (KPIs) Performed:

- Total Sales:** \$2.29M
- Total Profit:** \$285K
- Total Quantity Sold:** 37,785
- Total Orders:** 9,978
- Average Profit Margin:** 12%
- Return Rate:** 8%

## Dashboard Features

The Excel dashboard includes:

- Category-wise performance charts
- Top products analysis
- Regional sales and profit comparison
- Segment performance breakdown
- Returns impact visualization
- Manager accountability by region
- Yearly sales trend
- Interactive slicers: Category, Segment, Region, Year

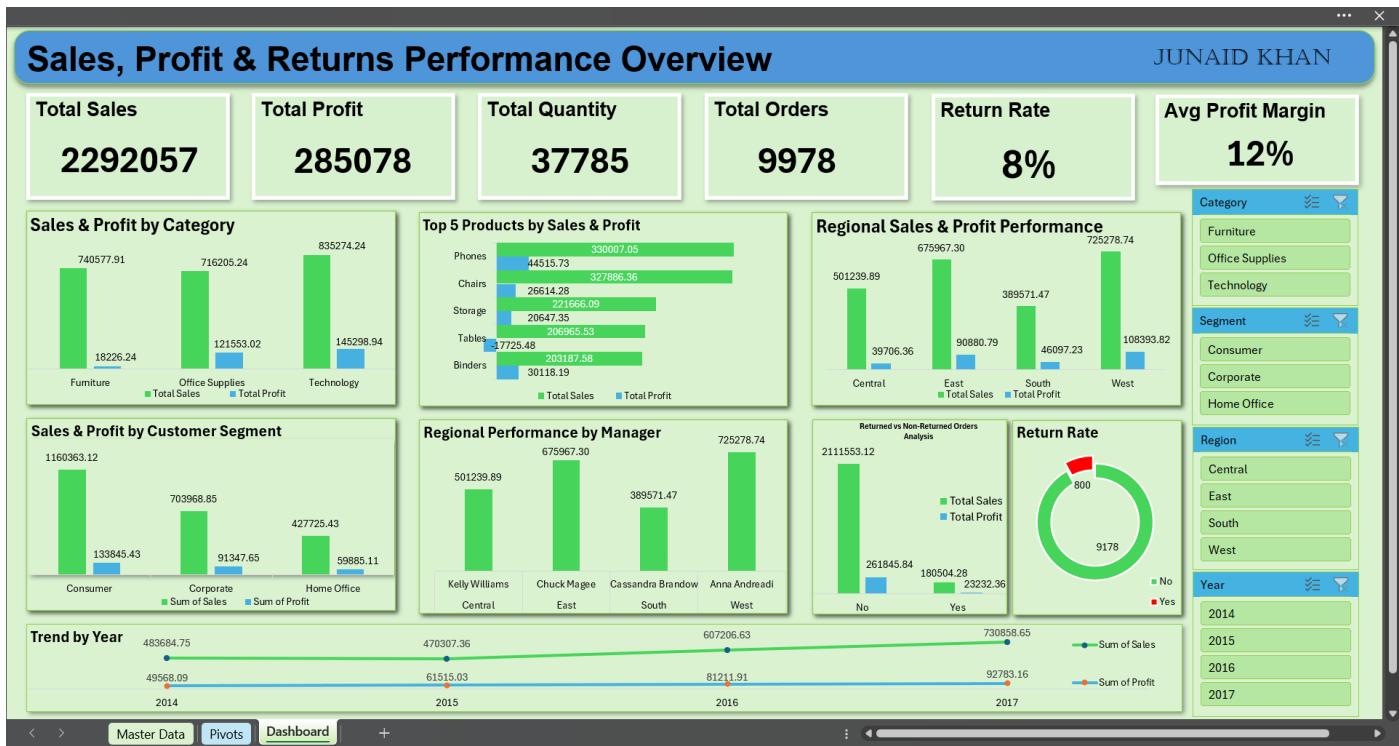


Figure 4 Overall Dashboard layout

## Business Insights

- The business generated **\$2.29M in total sales** and **\$285K in total profit**, with an average **profit margin of 12%**, indicating moderate overall profitability.
- Among categories, **Technology** is the most profitable (**\$145K profit**), while **Furniture** generated only **\$18K profit** despite strong sales volume, suggesting margin inefficiencies.
- At the sub-category level, **Tables** recorded a **negative profit of -\$17.7K** on **\$206K sales**, highlighting a pricing or cost-control issue. In contrast, **Phones** delivered strong performance with **\$44.5K profit**.
- Regionally, the **West region** is the top performer (**\$108K profit**), followed by the **East (\$90K)**. The **Central region (\$39K)** shows comparatively weaker profitability, indicating potential operational gaps.
- From a customer segment perspective, the **Consumer segment contributes the highest sales (\$1.16M)** and profit (**\$133K**), making it the primary revenue driver.
- The company processed **9,978 orders**, of which **800 were returned**, resulting in an **8% return rate**. Non-returned orders generated **\$261K profit**, whereas returned orders significantly reduced profitability, confirming the financial impact of returns.
- Region-wise accountability analysis shows that **Anna Andreadi (West)** manages the most profitable region, while other regions may require performance optimization strategies.
- Sales show consistent year-on-year growth, increasing from **\$483K (2014)** to **\$730K (2017)**, reflecting steady business expansion.

## Business Recommendations

- The **Tables** sub-category should undergo a pricing and discount strategy review. Despite generating over **\$206K in sales**, it resulted in a **negative profit (-\$17.7K)**, indicating margin leakage that needs immediate corrective action.
- Given that **Technology contributes \$145K in profit**, the company should consider expanding product offerings, increasing targeted promotions, and prioritizing inventory in this high-margin category.
- The **Central region**, with only **\$39K profit**, underperforms compared to West and East. A review of regional sales strategies, cost structure, and operational efficiency is recommended to improve profitability.
- With an **8% return rate (800 orders)**, analyzing return reasons by product category and region could help reduce losses and protect overall margins.
- As sales have grown steadily from **\$483K (2014)** to **\$730K (2017)**, reinvesting in high-performing regions (West, East) and profitable segments (Consumer, Technology) can further accelerate growth.

## Tools Used

- Microsoft Excel,      Pivot Tables,      Slicers,      (Shapes)Dashboard Design
- AI (Chat GPT)

## Conclusion

- This project demonstrates how raw retail data can be transformed into meaningful business insights using Excel. Through data cleaning, structured analysis, and dashboard design, the report provides clear visibility into sales performance, profitability, regional contribution, and return impact. The dashboard enables decision-makers to quickly understand trends and identify improvement areas.