



Sales Dataset Analysis – Advanced Excel Project

Presented By:
T S Shaham Moideen
Data Science & Analytics

Project Overview & Objectives

Dataset: Retail sales dataset with transactional data

Objective: Analyze and extract business insights using advanced Excel tools

Scope:

- Clean and format data
- Create interactive reports and dashboards
- Perform in-depth sales analysis using: Formulas, PivotTables & PivotCharts, What-If Analysis, Power Pivot, Macros for Automation

Data Cleaning & Preparation

Dataset Review Findings:

- No blank cells or duplicate entries were found in the dataset.
- The dataset was well-structured and consistent.

New Columns Created:

- Adjusted Sales = $\text{Sales} \times (1 - \text{Discount})$ - Helps capture net revenue after discounts.
- Discount Amount = $\text{Sales} \times \text{Discount}$ - Calculates the exact ₹ value of discount per transaction.

Formatting Adjustments Made:

- Sales, Profit, and Adjusted Sales columns were formatted to Currency (₹).
- Discount column was formatted as Percentage.
- Order Date and Ship Date were formatted using a consistent Date format (dd/mm/yyyy).

Data Type Corrections:

- Ensured all numeric fields (Sales, Quantity, Profit, Discount) were properly typed.
- Applied consistent formatting across all rows for cleaner analysis.

Raw Data

Row ID	Order ID	Order Date	Ship Date	Ship Mode	Customer	Customer Address	Segment	Country	City	State	Postal Code	Region	Product ID	Category	Sub-Category	Product Name	Sales	Quantity	Discount	Profit
1	CA-2016-1	#####	#####	Second Class	CG-12520	Claire Gutierrez	Consumer	United States	Henderson	Kentucky	42420	South	FUR-BO-1	Furniture	Bookcases	Bush Somerset	261.96	2	0	41.9136
2	CA-2016-2	#####	#####	Second Class	CG-12520	Claire Gutierrez	Consumer	United States	Henderson	Kentucky	42420	South	FUR-CH-1	Furniture	Chairs	Honolulu Deluxe	731.94	3	0	219.582
3	CA-2016-3	#####	#####	Second Class	DV-13045	Darrin Varney	Corporate	United States	Los Angeles	California	90036	West	OFF-LA-10	Office Supplies	Labels	Self-Adhesive	14.62	2	0	6.8714
4	US-2015-1	#####	#####	Standard Class	SO-20335	Sean O'Donnell	Consumer	United States	Fort Lauderdale	Florida	33311	South	FUR-TA-10	Furniture	Tables	Bretford C Series	957.578	5	0.45	-383.031
5	US-2015-1	#####	#####	Standard Class	SO-20335	Sean O'Donnell	Consumer	United States	Fort Lauderdale	Florida	33311	South	OFF-ST-10	Office Supplies	Storage	Eldon Folding	22.368	2	0.2	2.5164
6	CA-2014-1	#####	#####	Standard Class	BH-11710	Brosina Holdings	Consumer	United States	Los Angeles	California	90032	West	FUR-FU-10	Furniture	Furnishings	Eldon Express	48.86	7	0	14.1694
7	CA-2014-1	#####	#####	Standard Class	BH-11710	Brosina Holdings	Consumer	United States	Los Angeles	California	90032	West	OFF-AR-10	Office Supplies	Art	Newell 3200	7.28	4	0	1.9656
8	CA-2014-1	#####	#####	Standard Class	BH-11710	Brosina Holdings	Consumer	United States	Los Angeles	California	90032	West	TEC-PH-10	Technology	Phones	Mitel 5320	907.152	6	0.2	90.7152
9	CA-2014-1	#####	#####	Standard Class	BH-11710	Brosina Holdings	Consumer	United States	Los Angeles	California	90032	West	OFF-BI-10	Office Supplies	Binders	DXL Angle	18.504	3	0.2	5.7825
10	CA-2014-1	#####	#####	Standard Class	BH-11710	Brosina Holdings	Consumer	United States	Los Angeles	California	90032	West	OFF-AP-10	Office Supplies	Appliances	Belkin F500	114.9	5	0	34.47
11	CA-2014-1	#####	#####	Standard Class	BH-11710	Brosina Holdings	Consumer	United States	Los Angeles	California	90032	West	FUR-TA-10	Furniture	Tables	Chromcraft	1706.18	9	0.2	85.3092
12	CA-2014-1	#####	#####	Standard Class	BH-11710	Brosina Holdings	Consumer	United States	Los Angeles	California	90032	West	TEC-PH-10	Technology	Phones	Konftel 2500	911.424	4	0.2	68.3568
13	CA-2017-1	#####	#####	Standard Class	AA-10480	Andrew Allen	Consumer	United States	Concord	North Carolina	28027	South	OFF-PA-10	Office Supplies	Paper	Xerox 1960	15.552	3	0.2	5.4432
14	CA-2016-1	#####	#####	Standard Class	IM-15070	Irene Madrid	Consumer	United States	Seattle	Washington	98103	West	OFF-BI-10	Office Supplies	Binders	Fellowes F750	407.976	3	0.2	132.592
15	US-2015-1	#####	#####	Standard Class	HP-14815	Harold Pavlov	Home Office	United States	Fort Worth	Texas	76106	Central	OFF-AP-10	Office Supplies	Appliances	Holmes & Narver	68.81	5	0.8	-123.858
16	US-2015-1	#####	#####	Standard Class	HP-14815	Harold Pavlov	Home Office	United States	Fort Worth	Texas	76106	Central	OFF-BI-10	Office Supplies	Binders	Storex Duraflex	2.544	3	0.8	-3.816
17	CA-2014-1	#####	#####	Standard Class	PK-19075	Pete Kriz	Consumer	United States	Madison	Wisconsin	53711	Central	OFF-ST-10	Office Supplies	Storage	Stur-D-Store	665.88	6	0	13.3176
18	CA-2014-1	#####	#####	Second Class	AG-10270	Alejandro Garcia	Consumer	United States	West Jordan	Utah	84084	West	OFF-ST-10	Office Supplies	Storage	Fellowes S1500	55.5	2	0	9.99
19	CA-2014-1	#####	#####	Second Class	ZD-21925	Zuschuss Inc	Consumer	United States	San Francisco	California	94109	West	OFF-AR-10	Office Supplies	Art	Newell 3400	8.56	2	0	2.4824
20	CA-2014-1	#####	#####	Second Class	ZD-21925	Zuschuss Inc	Consumer	United States	San Francisco	California	94109	West	TEC-PH-10	Technology	Phones	Cisco SPA500	213.48	3	0.2	16.011
21	CA-2014-1	#####	#####	Second Class	ZD-21925	Zuschuss Inc	Consumer	United States	San Francisco	California	94109	West	OFF-BI-10	Office Supplies	Binders	Wilson Jones	22.72	4	0.2	7.384
22	CA-2016-1	#####	#####	Standard Class	KB-16585	Ken Black	Corporate	United States	Fremont	Nebraska	68025	Central	OFF-AR-10	Office Supplies	Art	Newell 3100	19.46	7	0	5.0596
23	CA-2016-1	#####	#####	Standard Class	KB-16585	Ken Black	Corporate	United States	Fremont	Nebraska	68025	Central	OFF-AP-10	Office Supplies	Appliances	Acco Six-Cut	60.34	7	0	15.6884
24	US-2017-1	#####	#####	Second Class	SF-20065	Sandra Flannery	Consumer	United States	Philadelphia	Pennsylvania	19140	East	FUR-CH-1	Furniture	Chairs	Global Fastback	71.372	2	0.3	-1.0196
25	CA-2015-1	#####	#####	Standard Class	EB-13870	Emily Burr	Consumer	United States	Orem	Utah	84057	West	FUR-TA-10	Furniture	Tables	Bretford C Series	1044.63	3	0	240.265
26	CA-2016-1	#####	#####	Second Class	EH-13945	Eric Hoffmann	Consumer	United States	Los Angeles	California	90049	West	OFF-BI-10	Office Supplies	Binders	Wilson Jones	11.648	2	0.2	4.2224
27	CA-2016-1	#####	#####	Second Class	EH-13945	Eric Hoffmann	Consumer	United States	Los Angeles	California	90049	West	TEC-AC-10	Technology	Accessories	Imation 8000	90.57	3	0	11.7741
28	US-2015-1	#####	#####	Standard Class	TB-21520	Tracy Blum	Consumer	United States	Philadelphia	Pennsylvania	19140	East	FUR-BO-1	Furniture	Bookcases	Riverside Industries	3083.43	7	0.5	-1665.05
29	US-2015-1	#####	#####	Standard Class	TB-21520	Tracy Blum	Consumer	United States	Philadelphia	Pennsylvania	19140	East	OFF-BI-10	Office Supplies	Binders	Avery Recycled	9.618	2	0.7	-7.0532
30	US-2015-1	#####	#####	Standard Class	TB-21520	Tracy Blum	Consumer	United States	Philadelphia	Pennsylvania	19140	East	FUR-FU-10	Furniture	Furnishings	Howard Miller	124.2	3	0.2	15.525
31	US-2015-1	#####	#####	Standard Class	TB-21520	Tracy Blum	Consumer	United States	Philadelphia	Pennsylvania	19140	East	OFF-EN-1	Office Supplies	Envelopes	Poly String	3.264	2	0.2	1.1016
32	US-2015-1	#####	#####	Standard Class	TB-21520	Tracy Blum	Consumer	United States	Philadelphia	Pennsylvania	19140	East	OFF-AR-10	Office Supplies	Art	BOSTON MOUNTAIN	86.304	6	0.2	9.7092
33	US-2015-1	#####	#####	Standard Class	TB-21520	Tracy Blum	Consumer	United States	Philadelphia	Pennsylvania	19140	East	OFF-BI-10	Office Supplies	Binders	Acco Press	6.858	6	0.7	-5.715
34	US-2015-1	#####	#####	Standard Class	TB-21520	Tracy Blum	Consumer	United States	Philadelphia	Pennsylvania	19140	East	OFF-AR-10	Office Supplies	Art	Lumber Creative	15.76	2	0.2	3.546
35	CA-2017-1	#####	#####	Second Class	MA-17560	Matt Abel	Home Office	United States	Houston	Texas	77095	Central	OFF-PA-10	Office Supplies	Paper	Easy-staple	29.472	3	0.2	9.9468
36	CA-2016-1	#####	#####	First Class	GH-14485	Gene Hale	Corporate	United States	Richardson	Texas	75080	Central	TEC-PH-10	Technology	Phones	GE 30524E	1097.54	7	0.2	123.474
37	CA-2016-1	#####	#####	First Class	GH-14485	Gene Hale	Corporate	United States	Richardson	Texas	75080	Central	FUR-FU-10	Furniture	Furnishings	Electrix Armoire	190.92	5	0.6	-147.963
38	CA-2015-1	#####	#####	Standard Class	SN-20710	Steve Nguyen	Home Office	United States	Houston	Texas	77041	Central	OFF-EN-1	Office Supplies	Envelopes	#10-4 1/8"	113.328	9	0.2	35.415
39	CA-2015-1	#####	#####	Standard Class	SN-20710	Steve Nguyen	Home Office	United States	Houston	Texas	77041	Central	FUR-BO-1	Furniture	Bookcases	Atlantic Modern	532.399	3	0.32	-46.9764
40	CA-2015-1	#####	#####	Standard Class	SN-20710	Steve Nguyen	Home Office	United States	Houston	Texas	77041	Central	FUR-CH-1	Furniture	Chairs	Global Fastback	212.058	3	0.3	-15.147

Cleaned Data

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	Product Name	Sales	Quantity	Discount	Profit	Adjusted Sales	Discount Amount
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-10001798	Furniture	Bookcases	Bush Somerset Collecti	₹ 261.96	2	0.00%	₹ 41.91	₹ 261.96	₹ 0.00
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-10000454	Furniture	Chairs	Hon Deluxe Fabric Uph	₹ 731.94	3	0.00%	₹ 219.58	₹ 731.94	₹ 0.00
3	CA-2016-138688	12-06-2016	16-06-2016	Second Class	DV-13045	Darrin Van Huff	Corporate	United States	Los Angeles	California	90036	West	OFF-LA-10000240	Office Supplies	Labels	Self-Adhesive Address	₹ 14.62	2	0.00%	₹ 6.87	₹ 14.62	₹ 0.00
4	US-2015-108966	11-10-2015	18-10-2015	Standard Class	SO-20335	Sean O'Donnell	Consumer	United States	Fort Lauder	Florida	33311	South	FUR-TA-10000577	Furniture	Tables	Bretford CR4500 Series	₹ 957.58	5	45.00%	-₹ 383.03	₹ 526.67	₹ 430.91
5	US-2015-108966	11-10-2015	18-10-2015	Standard Class	SO-20335	Sean O'Donnell	Consumer	United States	Fort Lauder	Florida	33311	South	OFF-ST-10000760	Office Supplies	Storage	Eldon Fold 'N Roll Cart	₹ 22.37	2	20.00%	₹ 2.52	₹ 17.89	₹ 4.47
6	CA-2014-115812	09-06-2014	14-06-2014	Standard Class	BH-11710	Brosina Hoffman	Consumer	United States	Los Angeles	California	90032	West	FUR-FU-10001487	Furniture	Furnishings	Eldon Expressions Woc	₹ 48.86	7	0.00%	₹ 14.17	₹ 48.86	₹ 0.00
7	CA-2014-115812	09-06-2014	14-06-2014	Standard Class	BH-11710	Brosina Hoffman	Consumer	United States	Los Angeles	California	90032	West	OFF-AR-10002833	Office Supplies	Art	Newell 322	₹ 7.28	4	0.00%	₹ 1.97	₹ 7.28	₹ 0.00
8	CA-2014-115812	09-06-2014	14-06-2014	Standard Class	BH-11710	Brosina Hoffman	Consumer	United States	Los Angeles	California	90032	West	TEC-PH-10002275	Technology	Phones	Mitel 5320 IP Phone Vo	₹ 907.15	6	20.00%	₹ 90.72	₹ 725.72	₹ 181.43
9	CA-2014-115812	09-06-2014	14-06-2014	Standard Class	BH-11710	Brosina Hoffman	Consumer	United States	Los Angeles	California	90032	West	OFF-BI-10003910	Office Supplies	Binders	DXL Angle-View Binder	₹ 18.50	3	20.00%	₹ 5.78	₹ 14.80	₹ 3.70
10	CA-2014-115812	09-06-2014	14-06-2014	Standard Class	BH-11710	Brosina Hoffman	Consumer	United States	Los Angeles	California	90032	West	OFF-AP-10002892	Office Supplies	Appliances	Belkin F5C206VTEL 6 Ou	₹ 114.90	5	0.00%	₹ 34.47	₹ 114.90	₹ 0.00
11	CA-2014-115812	09-06-2014	14-06-2014	Standard Class	BH-11710	Brosina Hoffman	Consumer	United States	Los Angeles	California	90032	West	FUR-TA-10001539	Furniture	Tables	Chromcraft Rectangula	₹ 1,706.18	9	20.00%	₹ 85.31	₹ 1,364.95	₹ 341.24
12	CA-2014-115812	09-06-2014	14-06-2014	Standard Class	BH-11710	Brosina Hoffman	Consumer	United States	Los Angeles	California	90032	West	TEC-PH-10002033	Technology	Phones	Konftel 250 Conference	₹ 911.42	4	20.00%	₹ 68.36	₹ 729.14	₹ 182.28
13	CA-2017-114412	15-04-2017	20-04-2017	Standard Class	AA-10480	Andrew Allen	Consumer	United States	Concord	North Carolina	28027	South	OFF-PA-10002365	Office Supplies	Paper	Xerox 1967	₹ 15.55	3	20.00%	₹ 5.44	₹ 12.44	₹ 3.11
14	CA-2016-161389	05-12-2016	10-12-2016	Standard Class	IM-15070	Irene Maddox	Consumer	United States	Seattle	Washington	98103	West	OFF-BI-10003656	Office Supplies	Binders	Fellowes PB200 Plastic	₹ 407.98	3	20.00%	₹ 132.59	₹ 326.38	₹ 81.60
15	US-2015-118983	22-11-2015	26-11-2015	Standard Class	HP-14815	Harold Pawlan	Home Office	United States	Fort Worth	Texas	76106	Central	OFF-AP-10002311	Office Supplies	Appliances	Holmes Replacement f	₹ 68.81	5	80.00%	-₹ 123.86	₹ 13.76	₹ 55.05
16	US-2015-118983	22-11-2015	26-11-2015	Standard Class	HP-14815	Harold Pawlan	Home Office	United States	Fort Worth	Texas	76106	Central	OFF-BI-10000756	Office Supplies	Binders	Storex DuraTech Recycl	₹ 2.54	3	80.00%	-₹ 3.82	₹ 0.51	₹ 2.04
17	CA-2014-105893	11-11-2014	18-11-2014	Standard Class	PK-19075	Pete Kriz	Consumer	United States	Madison	Wisconsin	53711	Central	OFF-ST-10004186	Office Supplies	Storage	Stur-D-Stor Shelving, Ve	₹ 665.88	6	0.00%	₹ 13.32	₹ 665.88	₹ 0.00
18	CA-2014-167164	13-05-2014	15-05-2014	Second Class	AG-10270	Alejandro Grove	Consumer	United States	West Jordan	Utah	84084	West	OFF-ST-10000107	Office Supplies	Storage	Fellowes Super Stor/Di	₹ 55.50	2	0.00%	₹ 9.99	₹ 55.50	₹ 0.00
19	CA-2014-143336	27-08-2014	01-09-2014	Second Class	ZD-21925	Zuschuss Donatel	Consumer	United States	San Francisc	California	94109	West	OFF-AR-10003056	Office Supplies	Art	Newell 341	₹ 8.56	2	0.00%	₹ 2.48	₹ 8.56	₹ 0.00
20	CA-2014-143336	27-08-2014	01-09-2014	Second Class	ZD-21925	Zuschuss Donatel	Consumer	United States	San Francisc	California	94109	West	TEC-PH-10001949	Technology	Phones	Cisco SPA 501G IP Phon	₹ 213.48	3	20.00%	₹ 16.01	₹ 170.78	₹ 42.70
21	CA-2014-143336	27-08-2014	01-09-2014	Second Class	ZD-21925	Zuschuss Donatel	Consumer	United States	San Francisc	California	94109	West	OFF-BI-10002215	Office Supplies	Binders	Wilson Jones Hanging	₹ 22.72	4	20.00%	₹ 7.38	₹ 18.18	₹ 4.54
22	CA-2016-137330	09-12-2016	13-12-2016	Standard Class	KB-16585	Ken Black	Corporate	United States	Fremont	Nebraska	68025	Central	OFF-AR-10000246	Office Supplies	Art	Newell 318	₹ 19.46	7	0.00%	₹ 5.06	₹ 19.46	₹ 0.00
23	CA-2016-137330	09-12-2016	13-12-2016	Standard Class	KB-16585	Ken Black	Corporate	United States	Fremont	Nebraska	68025	Central	OFF-AP-10001492	Office Supplies	Appliances	Acco Six-Outlet Power S	₹ 60.34	7	0.00%	₹ 15.69	₹ 60.34	₹ 0.00
24	US-2017-156909	16-07-2017	18-07-2017	Second Class	SF-20065	Sandra Flanagan	Consumer	United States	Philadelphia	Pennsylvania	19140	East	FUR-CH-10002774	Furniture	Chairs	Global Deluxe Stacking	₹ 71.37	2	30.00%	-₹ 1.02	₹ 49.96	₹ 21.41
25	CA-2015-106320	25-09-2015	30-09-2015	Standard Class	EB-13870	Emily Burns	Consumer	United States	Orem	Utah	84057	West	FUR-TA-10000577	Furniture	Tables	Bretford CR4500 Series	₹ 1,044.63	3	0.00%	₹ 240.26	₹ 1,044.63	₹ 0.00
26	CA-2016-121755	16-01-2016	20-01-2016	Second Class	EH-13945	Eric Hoffmann	Consumer	United States	Los Angeles	California	90049	West	OFF-BI-10001634	Office Supplies	Binders	Wilson Jones Active Us	₹ 11.65	2	20.00%	₹ 4.22	₹ 9.32	₹ 2.33
27	CA-2016-121755	16-01-2016	20-01-2016	Second Class	EH-13945	Eric Hoffmann	Consumer	United States	Los Angeles	California	90049	West	TEC-AC-10003027	Technology	Accessories	Imation 8GB Mini Trave	₹ 90.57	3	0.00%	₹ 11.77	₹ 90.57	₹ 0.00
28	US-2015-150630	17-09-2015	21-09-2015	Standard Class	TB-21520	Tracy Blumstein	Consumer	United States	Philadelphia	Pennsylvania	19140	East	FUR-BO-10004834	Furniture	Bookcases	Riverside Palais Royal	₹ 3,083.43	7	50.00%	-₹ 1,665.05	₹ 1,541.72	₹ 1,541.72
29	US-2015-150630	17-09-2015	21-09-2015	Standard Class	TB-21520	Tracy Blumstein	Consumer	United States	Philadelphia	Pennsylvania	19140	East	OFF-BI-10000474	Office Supplies	Binders	Avery Recycled Flexi-Vi	₹ 9.62	2	70.00%	-₹ 7.05	₹ 2.89	₹ 6.73
30	US-2015-150630	17-09-2015	21-09-2015	Standard Class	TB-21520	Tracy Blumstein	Consumer	United States	Philadelphia	Pennsylvania	19140	East	FUR-FU-10004848	Furniture	Furnishings	Howard Miller 13-3/4"	₹ 124.20	3	20.00%	₹ 15.53	₹ 99.36	₹ 24.84
31	US-2015-150630	17-09-2015	21-09-2015	Standard Class	TB-21520	Tracy Blumstein	Consumer	United States	Philadelphia	Pennsylvania	19140	East	OFF-EN-10001509	Office Supplies	Envelopes	Poly String Tie Envelop	₹ 3.26	2	20.00%	₹ 1.10	₹ 2.61	₹ 0.65
32	US-2015-150630	17-09-2015	21-09-2015	Standard Class	TB-21520	Tracy Blumstein	Consumer	United States	Philadelphia	Pennsylvania	19140	East	OFF-AR-10004042	Office Supplies	Art	BOSTON Model 1800 Eli	₹ 86.30	6	20.00%	₹ 9.71	₹ 69.04	₹ 17.26
33	US-2015-150630	17-09-2015	21-09-2015	Standard Class	TB-21520	Tracy Blumstein	Consumer	United States	Philadelphia	Pennsylvania	19140	East	OFF-BI-10001525	Office Supplies	Binders	Acco Pressboard Covers	₹ 6.86	6	70.00%	-₹ 5.72	₹ 2.06	₹ 4.80
34	US-2015-150630	17-09-2015	21-09-2015	Standard Class	TB-21520	Tracy Blumstein	Consumer	United States	Philadelphia	Pennsylvania	19140	East	OFF-AR-10001683	Office Supplies	Art	Lumber Crayons	₹ 15.76	2	20.00%	₹ 3.55	₹ 12.61	₹ 3.15
35	CA-2017-107727	19-10-2017	23-10-2017	Second Class	MA-17560	Matt Abelman	Home Office	United States	Houston	Texas	77095	Central	OFF-PA-10000249	Office Supplies	Paper	Easy-staple paper	₹ 29.47	3	20.00%	₹ 9.95	₹ 23.58	₹ 5.89
36	CA-2016-117590	08-12-2016	10-12-2016	First Class	GH-14485	Gene Hale	Corporate	United States	Richardson	Texas	75080	Central	TEC-PH-10004977	Technology	Phones	GE 30524EE4	₹ 1,097.54	7	20.00%	₹ 123.47	₹ 878.04	₹ 219.51
37	CA-2016-117590	08-12-2016	10-12-2016	First Class	GH-14485	Gene Hale	Corporate	United States	Richardson	Texas	75080	Central	FUR-FU-10003664	Furniture	Furnishings	Electrix Architect's Clan	₹ 190.92	5	60.00%	-₹ 147.96	₹ 76.37	₹ 114.55
38	CA-2015-117415	27-12-2015	31-12-2015	Standard Class	SN-20710	Steve Nguyen	Home Office	United States	Houston	Texas	77041	Central	OFF-EN-10002986	Office Supplies	Envelopes	#10-4 1/8" x 9 1/2" Prem	₹ 113.33	9	20.00%	₹ 35.42	₹ 90.66	₹ 22.67
39	CA-2015-117415	27-12-2015	31-12-2015	Standard Class	SN-20710	Steve Nguyen	Home Office	United States	Houston	Texas	77041	Central	FUR-BO-10002545	Furniture	Bookcases	Atlantic Metals Mobile	₹ 532.40	3	32.00%	-₹ 46.98	₹ 362.03	₹ 170.37
40	CA-2015-117415	27-12-2015	31-12-2015	Standard Class	SN-20710	Steve Nguyen	Home Office	United States	Houston	Texas	77041	Central	FUR-CH-10004218	Furniture	Chairs	Global Fabric Manager	₹ 212.06	3	30.00%	-₹ 15.15	₹ 148.44	₹ 63.62

Key Metrics Calculation and Data Analysis

◆ Total Revenue

Formula: =SUM(Adjusted Sales) - Represents net revenue after discounts.

◆ Average Order Value (AOV)

Formula: =AVERAGE(Adjusted Sales) - Tells the average ₹ value per transaction.

◆ Total Discounts Given

Formula: =SUM(Discount Amount) - Total ₹ value of all discounts offered.

◆ Category and Segment Counts

Used the COUNTIFS function to determine the total number of orders by:

- Product Category (e.g., Furniture, Technology, Office Supplies)
- Customer Segment (e.g., Consumer, Corporate, Home Office)

◆ Average of Segments

Used the AVERAGEIF function to calculate the average discount per order for each customer segment.

Calculations

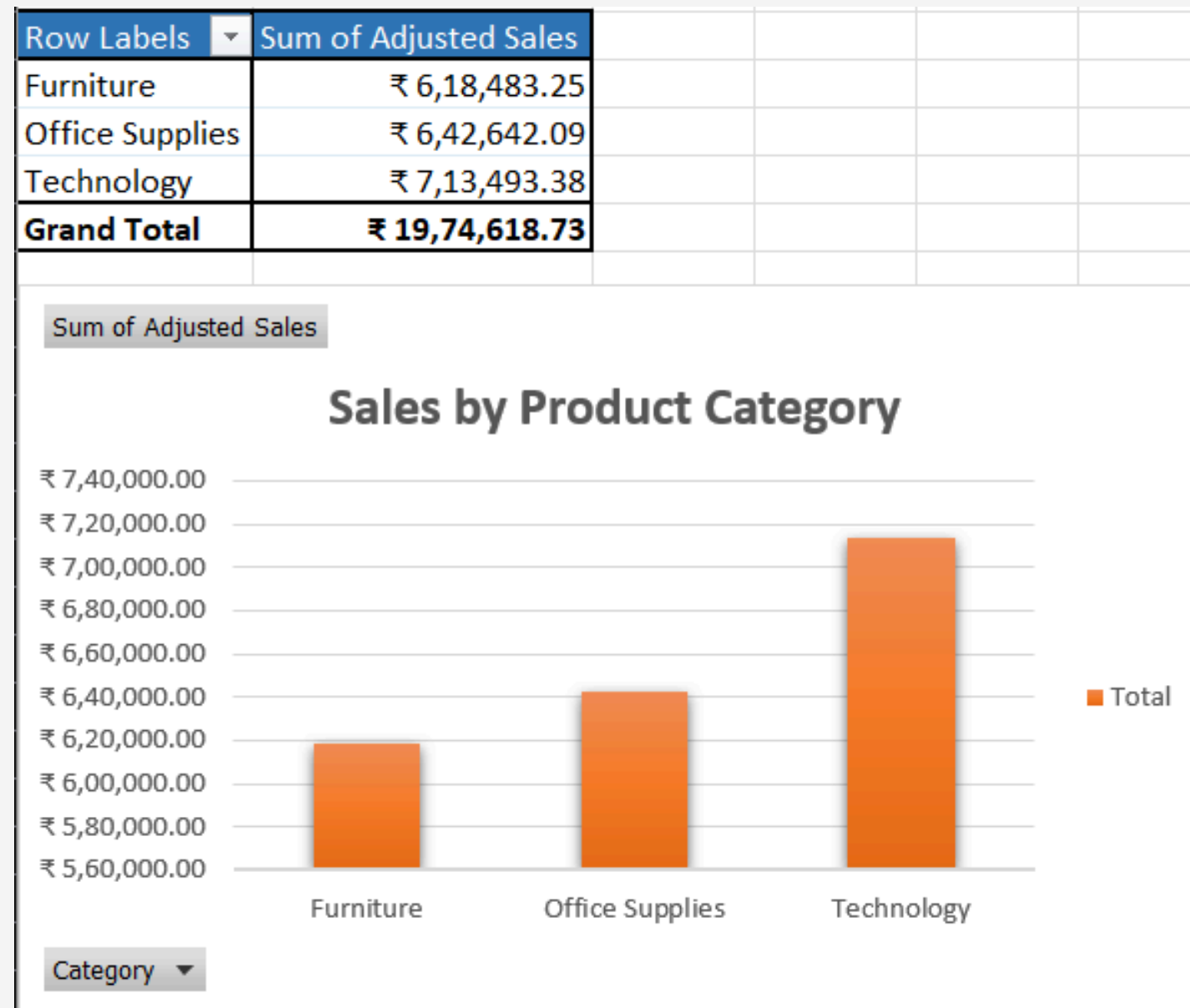
Total Revenue	₹ 19,74,618.73
Average Order Value	₹ 197.58
Total Discounts	₹ 3,22,582.13

Count of Categories	
Furniture	2121
Office Supplies	6026
Technology	1847

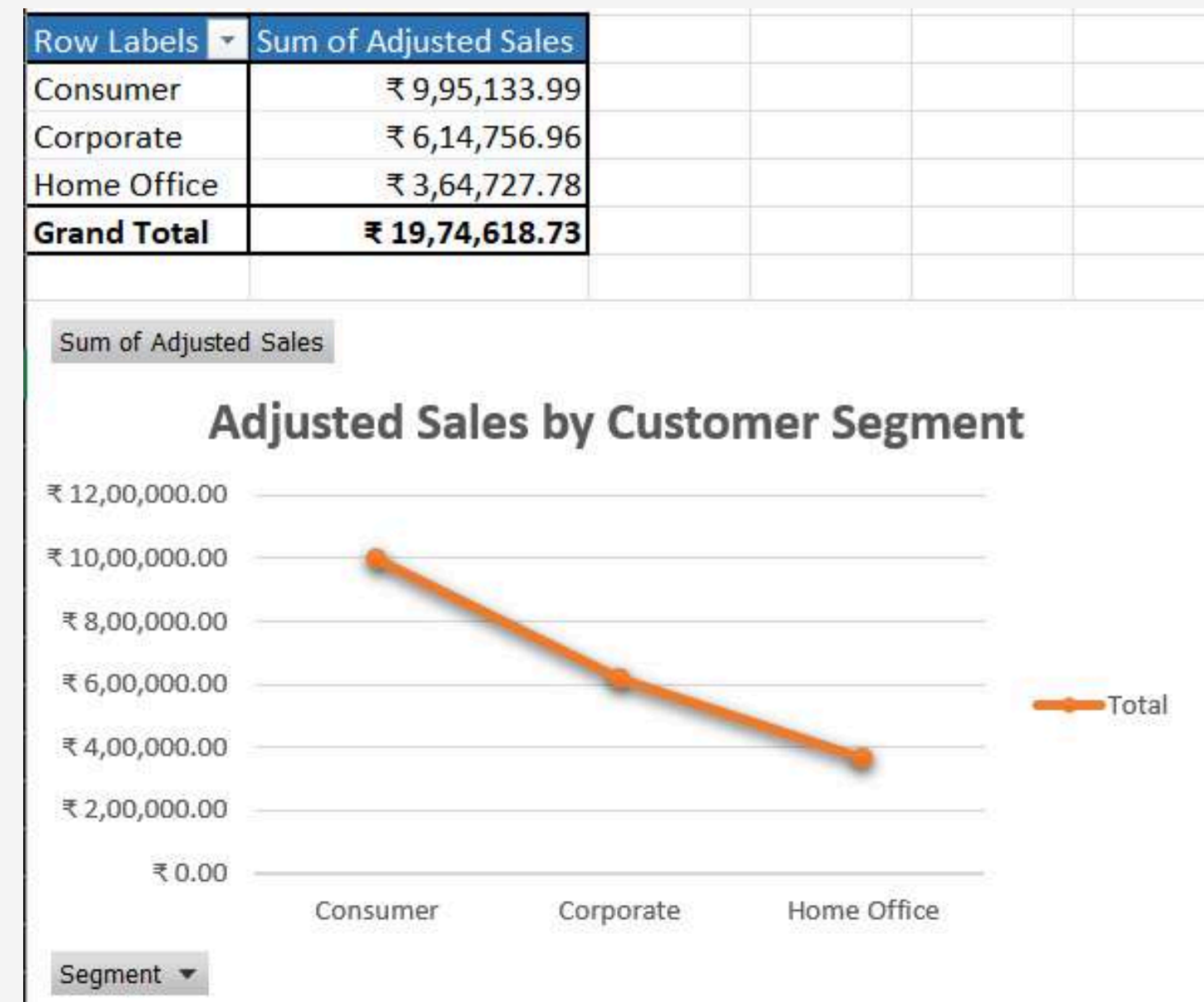
Count of Segments	
Consumer	5191
Corporate	3020
Home Office	1783

Avg Discount Per Order based on Segment	
Consumer	15.39%
Corporate	16.10%
Home Office	14.93%

Pivot Tables and Pivot Charts

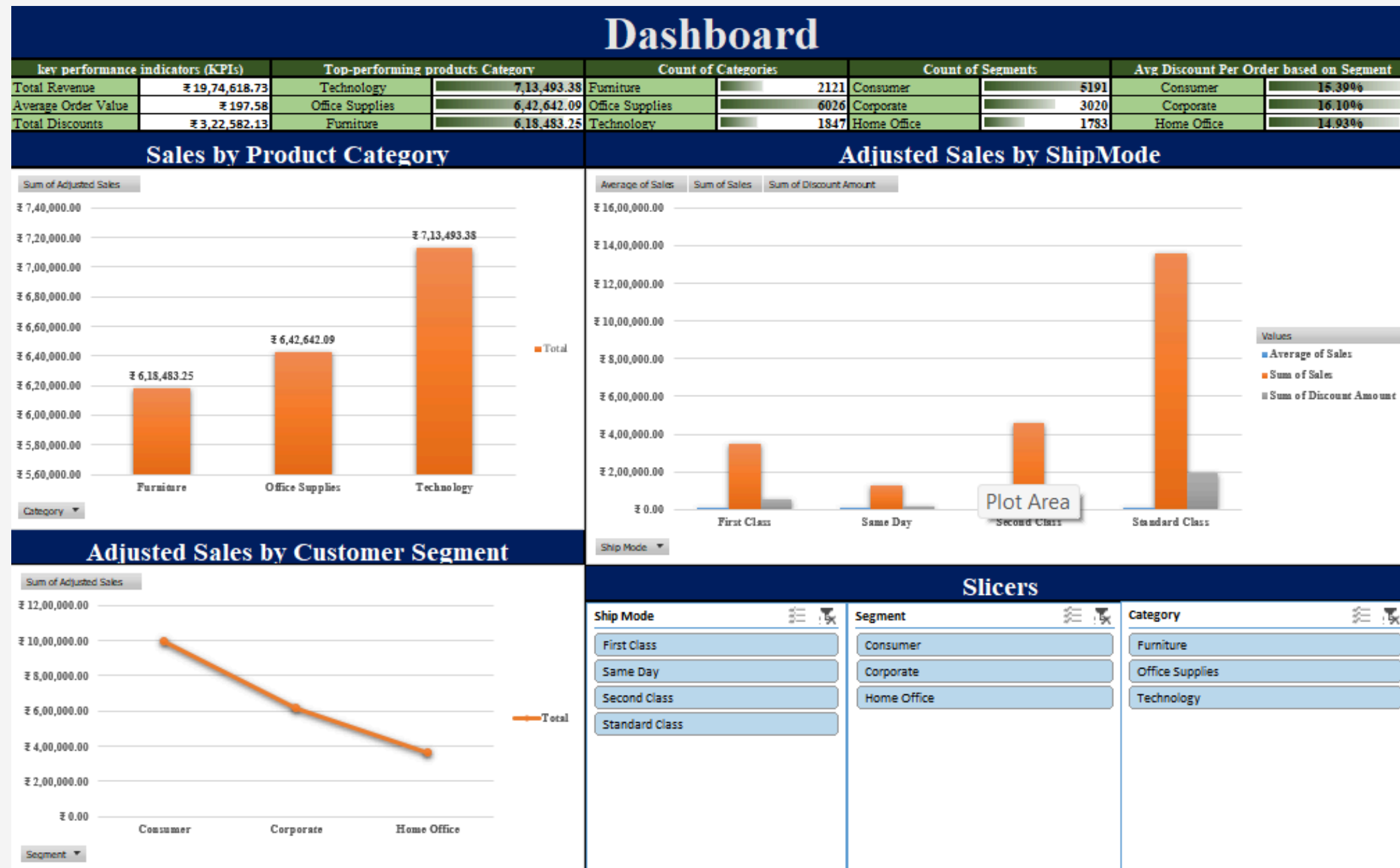


Sales by Product Category



Sales by Customer Segments

Dashboard Overview



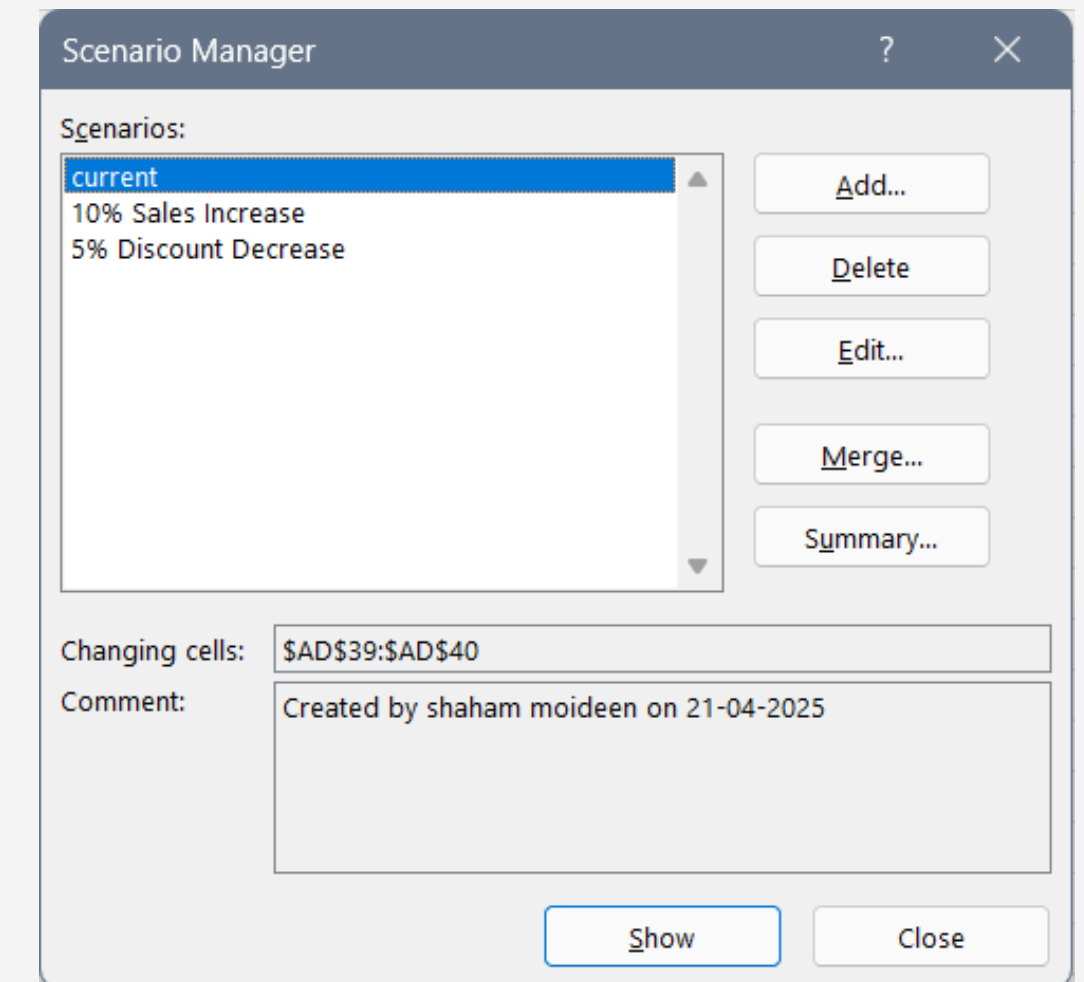
Contain:

- Key Performance Indicators (KPIs)
- Category & Segment Insights:
 - Best-performing Category & Segment
 - Average Discount per Segment
- Charts:
 - Sales by Product Category
 - Adjusted Sales by Ship Mode
 - Adjusted Sales by Customer Segment
- Interactivity:
 - Slicers to filter by Ship Mode, Customer Segment, and Product Category

What-If Analysis & Goal Seek

Scenario Manager

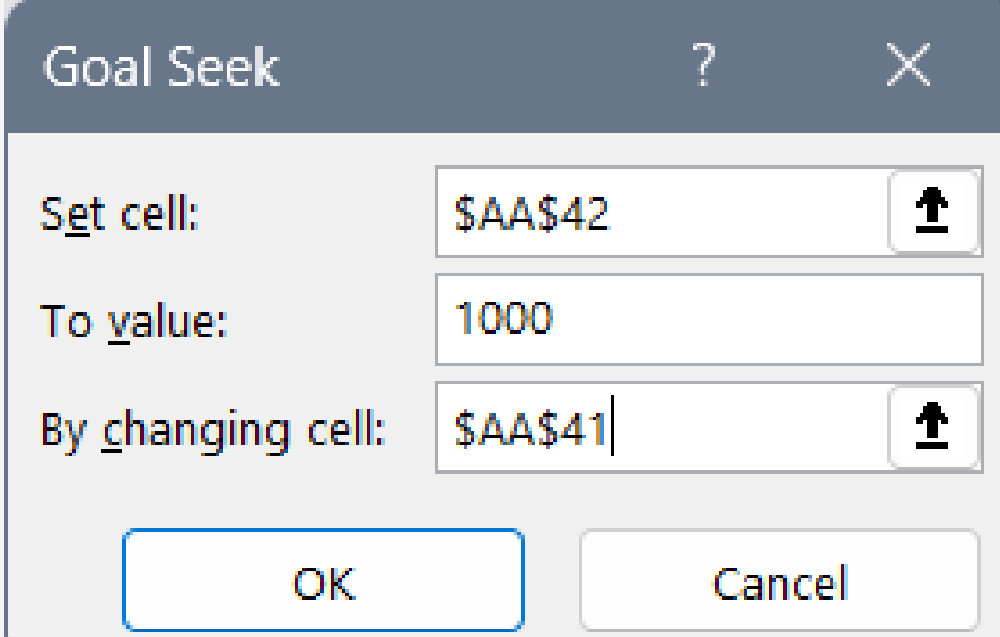
- Created and compared three business scenarios using Scenario Manager to understand the impact of sales changes and discounts:
 - Current Scenario: Baseline with existing values.
 - 10% Sales Increase Scenario: Simulated a 10% increase in total sales.
 - 5% Discount Decrease Scenario: Modeled the outcome if discount rates were reduced by 5%.
- Purpose: To analyze the effect of changes in key business drivers like sales and discount rate on overall performance.



What-If Analysis & Goal Seek

Goal Seek

- We used Goal Seek to find the required Discount % to achieve a specific Adjusted Sales Target:
 - Goal: Adjusted Sales = ₹1000
 - Changing Variable: Quantity
- Result: Excel calculated the exact discount needed to meet the target.
- Purpose: To reverse-calculate input needed to hit a defined business goal.



The image shows the 'Goal Seek' dialog box in Microsoft Excel. The dialog box has a title bar with a question mark and a close button. It contains three input fields: 'Set cell:' with the value '\$AA\$42', 'To value:' with the value '1000', and 'By changing cell:' with the value '\$AA\$41'. Each input field has a small icon to its right. At the bottom of the dialog box are two buttons: 'OK' and 'Cancel'.

Field	Value
Set cell:	\$AA\$42
To value:	1000
By changing cell:	\$AA\$41

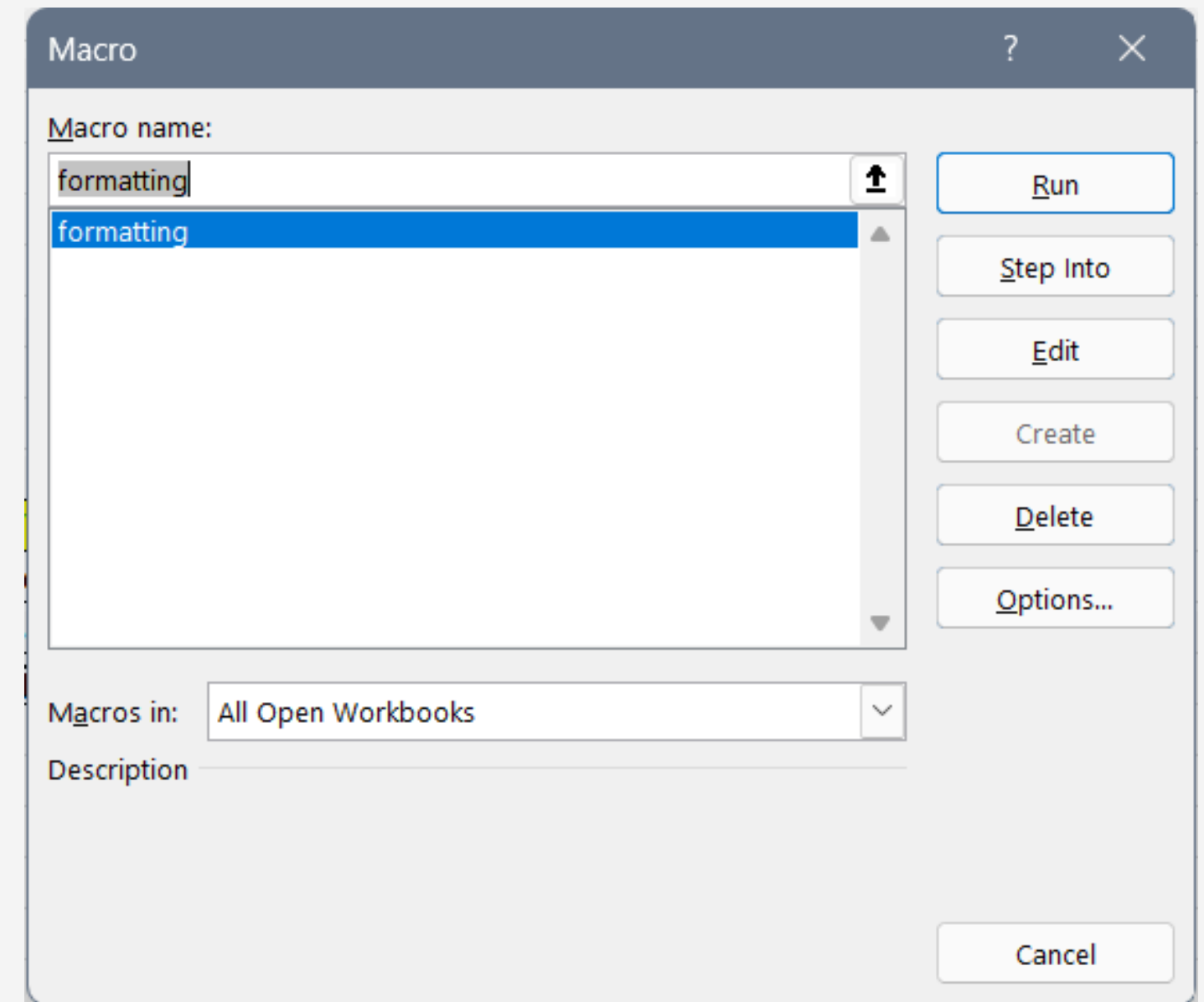
Macros and Automation

What Was Automated Using Macros:

- Visual Formatting
 - Converted columns like Order Date, Ship Date to Date format
 - Applied Currency format to Sales, Profit, and Adjusted Sales
 - Applied Percentage format to the Discount column
- Calculated New Columns, Automated the creation of:
 - $\text{Adjusted Sales} = \text{Sales} \times (1 - \text{Discount})$
 - $\text{Discount Amount} = \text{Sales} \times \text{Discount}$
- Design & Aesthetics
 - Made all column headers bold
 - Applied background color fill to headings and summary sections
 - Ensured consistent column widths and readable layout
- Also Created button to automate the Macro Automation

Benefits of the Macro:

- Reduces manual steps for every new dataset
- Maintains a clean, professional look consistently
- Speeds up report formatting and metric setup



Insights and Recommendations

Highlights

- Cleaned and formatted a complex sales dataset with consistent data types
- Created calculated columns: Adjusted Sales and Discount Amount
- Built dynamic PivotTables and PivotCharts to uncover insights
- Applied What-If Analysis and Goal Seek for strategic forecasting
- Automated repetitive tasks using a powerful VBA Macro
- Designed an interactive dashboard with slicers and KPIs

Key Insights

- Binders (5,974 units) and Paper (5,178 units) lead in volume
- Highest sales recorded in November, December, and September
- West Region tops with ₹1,08,418.45 in profit

Recommendations

- Stock up top-selling products to avoid lost sales due to inventory issues
- Focus on high-profit regions for targeted campaigns and promotions

Key Insights					
Top Products		Seasonal Trends		Best Performing Regions	
Row Labels	Quantity Sold	Row Labels	Total Sales	Row Labels	Total Profit
Binders	5974	Nov	₹ 3,52,461.07	West	₹ 1,08,418.45
Paper	5178	Dec	₹ 3,25,293.50	East	₹ 91,522.78
Furnishings	3563	Sep	₹ 3,07,649.95	South	₹ 46,749.43
Phones	3289	Mar	₹ 2,05,005.49	Central	₹ 39,706.36
Storage	3158	Oct	₹ 2,00,322.98	Grand Total	₹ 2,86,397.02
Art	3000	Aug	₹ 1,59,044.06		
Accessories	2976	May	₹ 1,55,028.81		
Chairs	2356	Jun	₹ 1,52,718.68		
Appliances	1729	Jul	₹ 1,47,238.10		
Labels	1400	Apr	₹ 1,37,762.13		
Tables	1241	Jan	₹ 94,924.84		
Fasteners	914	Feb	₹ 59,751.25		
Envelopes	906	Grand Total	₹ 22,97,200.86		
Bookcases	868				
Supplies	647				
Machines	440				
Copiers	234				
Grand Total	37873				

Power Pivot & Data Modeling

Tables used for Data Model

Sub-Category	Product Name	Sales	Quantity	Discount	Profit
Bookcases	Bush Somerset Collection Bookcase	₹ 261.96	2	0.00%	₹ 41.91
Chairs	Hon Deluxe Fabric Upholstered Stacking Chairs, Rounded Back	₹ 731.94	3	0.00%	₹ 219.58
Labels	Self-Adhesive Address Labels for Typewriters by Universal	₹ 14.62	2	0.00%	₹ 6.87
Tables	Bretford CR4500 Series Slim Rectangular Table	₹ 957.58	5	45.00%	-₹ 383.03
Storage	Eldon Fold 'N Roll Cart System	₹ 22.37	2	20.00%	₹ 2.52
Furnishings	Eldon Expressions Wood and Plastic Desk Accessories, Cherry Wood	₹ 48.86	7	0.00%	₹ 14.17
Art	Newell 322	₹ 7.28	4	0.00%	₹ 1.97
Phones	Mitel 5320 IP Phone VoIP phone	₹ 907.15	6	20.00%	₹ 90.72
Binders	DXL Angle-View Binders with Locking Rings by Samsill	₹ 18.50	3	20.00%	₹ 5.78
Appliances	Belkin F5C206VTEL 6 Outlet Surge	₹ 114.90	5	0.00%	₹ 34.47
Tables	Chromcraft Rectangular Conference Tables	₹ 1,706.18	9	20.00%	₹ 85.31
Phones	Konftel 250 Conference phone - Charcoal black	₹ 911.42	4	20.00%	₹ 68.36
Paper	Xerox 1967	₹ 15.55	3	20.00%	₹ 5.44
Binders	Fellowes PB200 Plastic Comb Binding Machine	₹ 407.98	3	20.00%	₹ 132.59

Customer ID	Customer Name	Segment	Country	City	State	Postal Code	Region
CG-12520	Claire Gute	Consumer	United States	Henderson	Kentucky	42420	South
CG-12520	Claire Gute	Consumer	United States	Henderson	Kentucky	42420	South
DV-13045	Darrin Van Huff	Corporate	United States	Los Angeles	California	90036	West
SO-20335	Sean O'Donnell	Consumer	United States	Fort Lauderdale	Florida	33311	South
SO-20335	Sean O'Donnell	Consumer	United States	Fort Lauderdale	Florida	33311	South
BH-11710	Brosina Hoffman	Consumer	United States	Los Angeles	California	90032	West
BH-11710	Brosina Hoffman	Consumer	United States	Los Angeles	California	90032	West
BH-11710	Brosina Hoffman	Consumer	United States	Los Angeles	California	90032	West
BH-11710	Brosina Hoffman	Consumer	United States	Los Angeles	California	90032	West
BH-11710	Brosina Hoffman	Consumer	United States	Los Angeles	California	90032	West
BH-11710	Brosina Hoffman	Consumer	United States	Los Angeles	California	90032	West
BH-11710	Brosina Hoffman	Consumer	United States	Los Angeles	California	90032	West
BH-11710	Brosina Hoffman	Consumer	United States	Los Angeles	California	90032	West
AA-10480	Andrew Allen	Consumer	United States	Concord	North Carolina	28027	South
IM-15070	Irene Maddox	Consumer	United States	Seattle	Washington	98103	West

Product Table

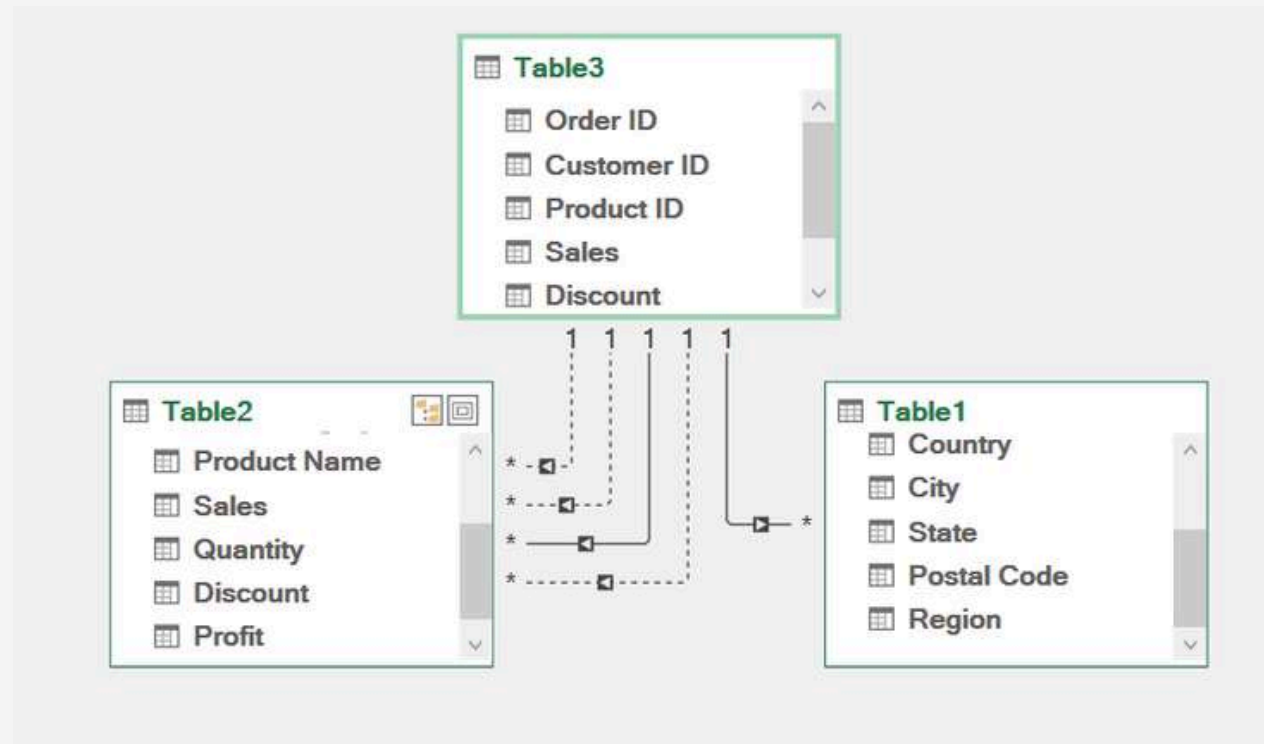
Order ID	Customer ID	Product ID	Sales	Discount	Profit
US-2015-118983	HP-14815	OFF-AP-10002311	₹ 68.81	80.00%	-₹ 123.86
US-2015-118083	HP-14816	OFF-BI-10000756	₹ 2.54	81.00%	-₹ 3.82
CA-2014-105893	PK-19075	OFF-ST-10004186	₹ 665.88	10.00%	₹ 13.32
CA-2014-167164	AG-10270	OFF-ST-10000107	₹ 55.50	9.00%	₹ 9.99
CA-2014-143336	ZD-21925	OFF-AR-10003056	₹ 8.56	2.00%	₹ 2.48
CA-2014-147336	ZD-21926	TEC-PH-10001949	₹ 213.48	21.00%	₹ 16.01
CA-2014-143376	ZD-21927	OFF-BI-10002215	₹ 22.72	23.00%	₹ 7.38
CA-2016-127330	KB-16585	OFF-AR-10000246	₹ 19.46	3.00%	₹ 5.06
CA-2016-139330	KB-16885	OFF-AP-10001492	₹ 60.34	7.00%	₹ 15.69
US-2017-156909	SF-20065	FUR-CH-10002774	₹ 71.37	30.00%	-₹ 1.02
CA-2015-106320	EB-13870	FUR-TA-10000577	₹ 1,044.63	1.00%	₹ 240.26
CA-2016-121755	EH-13945	OFF-BI-10001634	₹ 11.65	22.00%	₹ 4.22
CA-2016-101755	EH-13045	TEC-AC-10003027	₹ 90.57	5.00%	₹ 11.77
US-2015-150630	TB-21520	FUR-BO-10004834	₹ 3,083.43	50.00%	-₹ 1,665.05
US-2015-151630	TB-21530	OFF-BI-10000474	₹ 9.62	70.00%	-₹ 7.05

Sales Table

Customer Table

Power Pivot & Data Modeling

Relationship Diagram



Power Pivot Table

Sum of Sales	Column Labels			
Row Labels	Furniture	Office Supplies	Technology	Grand Total
CA-2014-105893	665.88	665.88	665.88	665.88
CA-2014-143336	8.56	8.56	8.56	8.56
CA-2014-143376	22.72	22.72	22.72	22.72
CA-2014-147336	213.48	213.48	213.48	213.48
CA-2014-167164	55.5	55.5	55.5	55.5
CA-2015-106320	1044.63	1044.63	1044.63	1044.63
CA-2016-101755	90.57	90.57	90.57	90.57
CA-2016-121755	11.648	11.648	11.648	11.648
CA-2016-127330	19.46	19.46	19.46	19.46
CA-2016-139330	60.34	60.34	60.34	60.34
US-2015-118083	2.544	2.544	2.544	2.544
US-2015-118983	68.81	68.81	68.81	68.81
US-2015-150630	3083.43	3083.43	3083.43	3083.43
US-2015-151630	9.618	9.618	9.618	9.618
US-2017-156909	71.372	71.372	71.372	71.372
Grand Total	5428.562	5428.562	5428.562	5428.562

Conclusion

- Conducted comprehensive analysis of a large retail sales dataset using Advanced Excel tools.
- Applied powerful techniques:
 - Data Cleaning & Formatting
 - Formulas (COUNTIFS, AVERAGEIF, etc.)
 - PivotTables & Dashboards
 - What-If Analysis & Goal Seek
 - Macros for automation
 - Power Pivot & Data Modeling
- Key Achievements
 - Built a dynamic sales dashboard with KPIs, slicers, and visual insights.
 - Derived actionable insights into products, sales trends, and regions.
 - Created a visually appealing, user-friendly interface for stakeholders.
- Impact
 - Enabled data-driven decision-making across sales, marketing, and inventory planning.
 - Delivered a fully automated, insight-rich Excel solution ready for real-world application.



Thank You.