

Project Title: Retail Supply Chain Performance Dashboard
Tracking Sales, Profitability & Returns in the Retail Sector

Introduction:

Supply chain inefficiencies, product returns, and uncontrolled discounts can significantly impact the profitability of retail businesses. This project focuses on building an interactive dashboard using real-world sales data to monitor, analyze, and optimize key supply chain metrics, enabling proactive business decisions.

Objective:

To analyze retail supply chain data, monitor KPIs like sales, profit, returns, and profitability, and provide actionable insights to optimize supply chain performance and minimize revenue loss.

Tools & Technologies Used:

- Tableau Public — for interactive dashboard development
 - MS Excel — data cleaning and preparation
 - Color Coding — consistent visual representation of KPIs and trends
-

Dataset Description:

- **Source:** Kaggle (Retail Supply Chain Sales Dataset)
- **Primary Sheets:**
 - Retail Order Full Dataset: Sales, returns, profit, quantity, discounts
 - Calendar Table: Date hierarchy for time-based analysis
- **Key Columns Used:**
 - Transaction Details: Order ID, Order Date, Ship Date, Ship Mode, Region
 - Product Information: Product Name, Category, Sub-Category
 - Sales Metrics: Sales, Quantity, Profit, Discount, Returned Flag
 - Derived Fields: Return Rate %, Profit Margin %

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Row ID	Order ID	Order Date	Ship Date	Ship Mode	Customer	Segment	Country	City	State	Postal Co-Region	Retail Sale Product ID	Category	Sub-Category	Product Name	Returned	Sales	Quantity	Discount	Profit		
1	CA-2016-1	8/11/2016	11/11/2016	Second Class	Claire Gut	Consumer	United States	Henderson	Kentucky	42420 South	Cassandra FUR-B0-1	Furniture	Bookcase	Bush Some	Not	261.96	2	0.00	41.91		
2	CA-2016-1	8/11/2016	11/11/2016	Second Class	CG-12520 Claire Gut	Consumer	United States	Henderson	Kentucky	42420 South	Cassandra FUR-CH-1	Furniture	Chairs	Hon Delux	Not	731.94	3	0.00	219.58		
3	CA-2016-1	12/6/2016	12/6/2016	Second Class	CL-DV-13045 Darrin Var	Corporate	United States	Los Angeles	California	90036 West	Anna Andri OFF-LA-1C	Office Sup.	Labels	Self-Adhe-	Not	14.62	2	0.00	6.87		
4	US-2015-1	11/10/2015	11/10/2015	Standard (SO-20335	Sean O'Dc Consumer	United States	Fort Lauderdale	Florida	33316 South	Cassandra FUR-TA-31	Furniture	Tables	Breford C	Not	957.58	5	0.45	-383.03			
5	US-2015-1	11/10/2015	11/10/2015	Standard (SO-20335	Sean O'Dc Consumer	United States	Fort Lauderdale	Florida	33311 South	Cassandra OFF-ST-1C	Office Sup.	Storage	Eldon Fol	Not	22.37	2	0.20	2.52			
6	CA-2014-1	9/6/2014	9/6/2014	Standard (BH-11710	Brosna Hi Consumer	United States	Los Angeles	California	90032 West	Anna Andri FUR-FU-1	Furniture	Furnishing	Eldon Exp Not	Not	48.86	7	0.00	14.17			
7	CA-2014-1	9/6/2014	9/6/2014	Standard (BH-11710	Brosna Hi Consumer	United States	Los Angeles	California	90032 West	Anna Andri OFF-1	Office Sup.	Art	Newell 32	Not	7.28	4	0.00	1.97			
8	CA-2014-1	9/6/2014	9/6/2014	Standard (BH-11710	Brosna Hi Consumer	United States	Los Angeles	California	90032 West	Anna Andri TEC-PH-1	Technolog	Phones	Mitel 532	Not	907.15	6	0.20	90.72			
9	CA-2014-1	9/6/2014	9/6/2014	Standard (BH-11710	Brosna Hi Consumer	United States	Los Angeles	California	90032 West	Anna Andri OFF-BI-10	Office Sup.	Binders	DXL Angle	Not	18.50	3	0.20	5.78			
10	CA-2014-1	9/6/2014	9/6/2014	Standard (BH-11710	Brosna Hi Consumer	United States	Los Angeles	California	90032 West	Anna Andri OFF-AP-1	Office Sup.	Appliance	Belkin F5C	Not	114.90	5	0.00	34.47			
11	CA-2014-1	9/6/2014	9/6/2014	Standard (BH-11710	Brosna Hi Consumer	United States	Los Angeles	California	90032 West	Anna Andri FUR-TA-1	Furniture	Tables	Chromca	Not	1706.18	9	0.20	85.31			
12	CA-2014-1	9/6/2014	9/6/2014	Standard (BH-11710	Brosna Hi Consumer	United States	Los Angeles	California	90032 West	Anna Andri OFF-TEC-PH-1	Technolog	Phones	Kontroll 25	Not	911.42	4	0.20	68.36			
13	CA-2014-1	9/6/2014	9/6/2014	Standard (BH-11710	Brosna Hi Consumer	United States	Los Angeles	California	90032 West	Anna Andri OFF-FU-1	Furniture	Furnishing	Eldon Exp Not	Not	15.55	3	0.20	5.44			
14	13 CA-2017-3	4/15/2017	4/20/2017	Standard (AA-10485	Andrew Al Consumer	United States	Concord	North Carolina	28027 South	Cassandra FUR-B0-1	Furniture	Bookcase	Versa 190	Not	407.00	3	0.20	123.86			
15	US-2015-1	11/22/2015	11/26/2015	Standard (HP-14815	Harold Pa Home Off	United States	Fort Worth	Texas	76105 Central	Anna Andri OFF-AP-1	Office Sup.	Art	Holmes R	Not	68.81	5	0.80	-123.86			
16	US-2015-1	11/22/2015	11/26/2015	Standard (HP-14815	Harold Pa Home Off	United States	Fort Worth	Texas	76105 Central	Kelly Willis OFF-BI-10	Office Sup.	Binders	Stores Du	Not	2.54	3	0.00	-3.82			
17	CA-2014-1	11/11/2014	11/18/2014	Standard (PK-18075	Pete Krejz	Consumer	United States	Madison	Wisconsin	53711 Central	Kelly Willis OFF-ST-1C	Office Sup.	Storage	Star-D-Stc	Not	665.88	6	0.00	13.32		
18	CA-2014-1	5/13/2014	5/15/2014	Second Class	CI-AG-10270 Alejandro	Consumer	United States	West Jord	Utah	84084 West	Anna Andri OFF-ST-1C	Office Sup.	Storage	Fellowes	Not	55.50	2	0.00	9.99		
19	CA-2014-1	8/27/2014	8/27/2014	Second Class	CI-ZD-19295 Zuschuss	Consumer	United States	San Fran	California	94109 West	Anna Andri OFF-AR-11	Office Sup.	Art	Newell 34	Yes	8.56	2	0.00	2.48		
20	CA-2014-1	8/27/2014	8/27/2014	Second Class	CI-ZD-19295 Zuschuss	Consumer	United States	San Fran	California	94109 West	Anna Andri TEC-PH-1	Technolog	Phones	Cisco SPA	Yes	213.48	3	0.20	16.01		
21	CA-2014-1	8/27/2014	8/27/2014	Second Class	CI-ZD-19295 Zuschuss	Consumer	United States	San Fran	California	94109 West	Anna Andri OFF-BI-10	Office Sup.	Binders	Wilson Joy	Yes	22.72	4	0.20	7.38		
22	CA-2014-1	8/27/2014	8/27/2014	Second Class	CI-ZD-19295 Zuschuss	Consumer	United States	San Fran	California	94109 West	Kelly Willis OFF-AR-1	Office Sup.	Art	Newell 31	Not	19.46	7	0.00	5.06		
23	CA-2015-6	9/12/2015	12/13/2015	Standard (KB-16585	Ken Black	Consumer	United States	Fremont	Nebraska	68025 Central	Kelly Willis OFF-AR-1	Office Sup.	Art	Kelly Willis OFF-AP-1	Office Sup. Appliance	Acco Six-C	Not	60.34	7	0.00	15.69
24	CA-2015-6	9/12/2015	12/13/2015	Standard (KB-16585	Ken Black	Corporate	United States	Fremont	Nebraska	68025 Central	Kelly Willis OFF-AP-1	Office Sup.	Appliance	Holmes R	Not	7.00	3	0.20	1.97		
25	CA-2017-7	7/16/2017	7/18/2017	Second Class	CI-SF-20065 Sandra	Fla Consumer	United States	Philadelphia	Pennslyvnia	19140 East	Chuck Ma FUR-CH-1	Furniture	Chairs	Global Delux	Not	71.37	2	0.30	-1.02		
26	CA-2015-1	9/25/2015	10/11/2015	Standard Class	CI-EH-13945 Eric Hoffn	Consumer	United States	St. Oren	Utah	84057 West	Anna Andri FUR-TA-1	Furniture	Tables	Breford C	Not	1044.63	3	0.00	240.26		
27	CA-2015-1	1/16/2016	1/20/2016	Second Class	CI-EH-13945 Eric Hoffn	Consumer	United States	St. Oren	Utah	90049 West	Anna Andri OFF-BI-10	Office Sup.	Binders	Wilson Joy	Not	11.65	2	0.20	4.22		
28	CA-2015-1	9/16/2015	9/16/2015	Standard Class	CI-EH-13945 Eric Hoffn	Consumer	United States	St. Oren	Utah	90049 West	Anna Andri OFF-AR-11	Office Sup.	Art	TEC-AC-1	Technolog Accessori	Imaton	Not	90.57	3	0.00	11.77
29	CA-2015-1	9/17/2015	9/17/2015	Standard Class	CI-EH-13945 Eric Hoffn	Consumer	United States	St. Oren	Utah	90049 West	Chuck Ma OFF-AP-1	Office Sup.	Binders	Chase	Not	3083.43	7	0.50	-1665.05		
30	CA-2015-1	9/17/2015	9/17/2015	Standard Class	CI-EH-13945 Eric Hoffn	Consumer	United States	St. Oren	Utah	90049 West	Chuck Ma OFF-FU-1	Furniture	Bookcase	Riverside	Not	124.20	3	0.20	15.53		
31	CA-2015-1	9/17/2015	9/17/2015	Standard Class	CI-EH-13945 Eric Hoffn	Consumer	United States	St. Oren	Utah	90049 West	Chuck Ma OFF-FU-1	Furniture	Storage	Howard M	Not	12.40	2	0.20	-7.05		
32	CA-2015-1	9/17/2015	9/17/2015	Standard Class	CI-EH-13945 Eric Hoffn	Consumer	United States	St. Oren	Utah	90049 West	Chuck Ma OFF-FU-1	Furniture	Tables	Lumber Cr	Not	1.26	1	0.00	0.31		
33	CA-2015-1	9/17/2015	9/17/2015	Standard Class	CI-EH-13945 Eric Hoffn	Consumer	United States	St. Oren	Utah	90049 West	Chuck Ma OFF-FU-1	Furniture	Storage	Wilson	Not	1.94	2	0.00	0.46		
34	CA-2015-1	9/17/2015	9/17/2015	Standard Class	CI-EH-13945 Eric Hoffn	Consumer	United States	St. Oren	Utah	90049 West	Chuck Ma OFF-FU-1	Furniture	Tables	Newell 31	Not	1.94	2	0.00	0.46		
35	CA-2015-1	9/17/2015	9/17/2015	Standard Class	CI-EH-13945 Eric Hoffn	Consumer	United States	St. Oren	Utah	90049 West	Chuck Ma OFF-FU-1	Furniture	Storage	Newell 31	Not	0.60	3	0.00	1.53		
36	CA-2017-10772	19/10/2017	23/10/2017	Second Class	Home Office	Consumer	United States	Houston	Texas	77095 Central	Kelly Williams	OFF-PA-1000231	Office Sup.	Binders	EasyStapl	Not	0.40	3	0.00	1.00	
37	CA-2016-117900	17/8/2016	17/10/2016	First Class	Corporate	United States	Richmon	Virginia	Treat	70909 Central	Kelly Williams	OFF-PA-10004977	Office Sup.	Technolog	Phenom	CF 100%	Not	1.00	7	0.00	1.00

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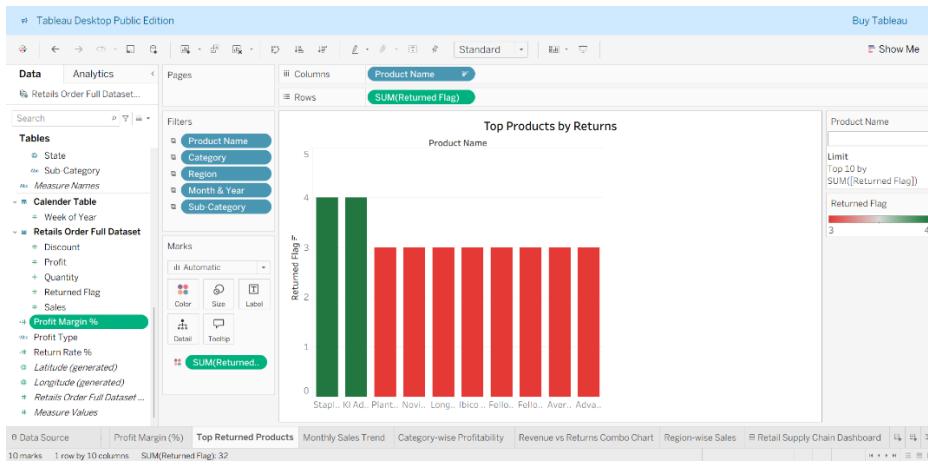
Order ID	Order Date	Ship Date	Ship Mode	Customer	Segment	Country	City	State	Postal Co-Region	Retail Sale Product ID	Category	Sub-Category	Product Name	Returned	Sales	Quantity	Discount	Profit	
1	CA-2016-1	11/08/2016	11/11/2016	Second Class	Cassandra Brandon	United States	Henderson	Kentucky	42420 South	FR-B0-1000278	Furniture	Bookcase	Bush Some	Not	261.96	2	0.00	41.91	
2	CA-2016-1	11/08/2016	11/11/2016	Second Class	Cassandra Brandon	United States	Henderson	Kentucky	42420 South	FR-B0-10000402	Furniture	Chairs	Hon Delux	Not	731.94	3	0.00	219.58	
3	CA-2016-1	11/08/2016	11/11/2016	Second Class	Anna Andri	Corporate	United States	Los Angeles	California	90036 West	Anna Andri OFF-LA-1C	Office Sup.	Labels	Self-Adhe-	Not	14.62	2	0.00	6.87
4	CA-2016-1	11/08/2016	11/11/2016	Second Class	Anna Andri	Corporate	United States	Fort Lauderdale	Florida	33311 South	Anna Andri OFF-ST-1C	Office Sup.	Tables	Breford C	Not	957.58	5	0.45	-383.03
5	CA-2016-1	11/08/2016	11/11/2016	Second Class	Anna Andri	Corporate	United States	Fort Lauderdale	Florida	33311 South	Anna Andri OFF-ST-1C	Office Sup.	Storage	Eldon Fol	Not	22.37	2	0.20	2.52
6	CA-2014-1	9/6/2014	9/6/2014	Standard (BH-11710	Brosna Hi Consumer	United States	Los Angeles	California	90032 West	Anna Andri FUR-FU-1	Furniture	Furnishing	Eldon Exp Not	Not	48.86	7	0.00	14.17	
7	CA-2014-1	9/6/2014	9/6/2014	Standard (BH-11710	Brosna Hi Consumer	United States	Los Angeles	California	90032 West	Anna Andri OFF-1	Office Sup.	Art	Newell 32	Not	7.28	4	0.00	1.97	
8	CA-2014-1	9/6/2014	9/6/2014	Standard (BH-11710	Brosna Hi Consumer	United States	Los Angeles	California	90032 West	Anna Andri TEC-PH-1	Technolog	Phones	Mitel 532	Not	907.15	6	0.20	90.72	
9	CA-2014-1	9/6/2014	9/6/2014	Standard (BH-11710	Brosna Hi Consumer	United States	Los Angeles	California	90032 West	Kelly Willis OFF-BI-10	Office Sup.	Binders	Stores Du	Not	2.54	3	0.00	-3.82	
10	CA-2014-1	9/6/2014	9/6/2014	Standard (BH-11710	Brosna Hi Consumer	United States	Los Angeles	California	90032 West	Kelly Willis OFF-ST-1C	Office Sup.	Storage	Star-D-Sto	Not	665.88	6	0.00	13.32	
11	CA-2014-1	9/6/2014	9/6/2014	Standard (BH-11710	Brosna Hi Consumer	United States	Los Angeles	California	90032 West	Kelly Willis OFF-AP-1	Office Sup.	Binders	DXL Angle	Not	18.50	3	0.20	5.78	
12	CA-2014-1	9/6/2014	9/6/2014	Standard (BH-11710	Brosna Hi Consumer	United States	Los Angeles	California	90032 West	Kelly Willis OFF-BI-10	Office Sup.	Binders	Chase	Not	114.65	5	0.45	-34.27	
13	CA-2014-1	9/6/2014	9/6/2014	Standard (BH-11710	Brosna Hi Consumer	United States	Los Angeles	California	90032 West	Kelly Willis OFF-ST-1C	Office Sup.	Storage	Howard M	Not	130.88	7	0.20	34.17	
14	CA-2014-1	9/6/2014	9/6/2014	Standard (BH-11710	Brosna Hi Consumer	United States	Los Angeles	California	90032 West	Kelly Willis OFF-AR-11	Office Sup.	Binders	Chase	Not	8.56	2	0.00	2.48	
15	CA-2014-1	9/6/2014	9/6/2014	Standard (BH-11710	Brosna Hi Consumer	United States	Los Angeles	California	90032 West	Kelly Willis OFF-TEC-AC-1	Technolog	Phones	Class SPA-1	Not	213.48	3	0.20	16.01	
16	CA-2014-1	9/6/2014	9/6/2014	Standard (BH-11710	Brosna Hi Consumer	United States	Los Angeles	California	90032 West	Kelly Willis OFF-FU-1	Furniture	Furnishing	Howard M	Not	114.65	2	0.20	7.38	
17	CA-2014-1	9/6/2014	9/6/2014	Standard (BH-11710	Brosna Hi Consumer	United States	Los Angeles	California	90032 West	Kelly Willis OFF-ST-1C	Office Sup.	Tables	Wardor	Not	104.72	4	0.20	2.08	
18	CA-2014-1	9/6/2014	9/6/2014	Standard (BH-11710	Brosna Hi Consumer	United States	Los Angeles	California	90032 West	Kelly Willis OFF-AP-1	Office Sup.	Binders	Wardor	Not	104.72	4	0.20	2.08	
19	CA-2014-1	9/6/2014	9/6/2014	Standard (BH-11710	Brosna Hi Consumer	United States	Los Angeles	California	90032 West	Kelly Willis OFF-BI-10	Office Sup.	Binders	Wardor	Not	104.72	4	0.20	2.08	

Screenshot of a Microsoft Excel spreadsheet titled "Calender Table". The table contains data from January 1, 2016, to July 24, 2016. Columns include Date, Year, Quarter, Quarter (Q), Month, Month Name, Month & Year, Week of Year, Week of Year (W), Day of Week, and Day Name. The "Day Name" column shows the day of the week for each date. The table has 25 rows of data.

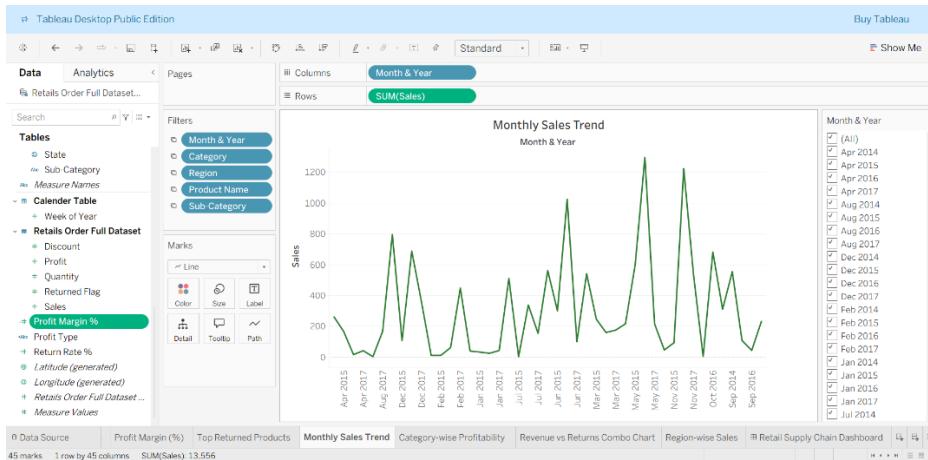
N	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	Date	Year	Quarter	Quarter (Q)	Month	Month Name	Month & Year	Week of Year	Week of Year (W)	Day of Week	Day Name					
2	01/07/2016	2016	3 Q3	2016 - Q3	7 Jul	Jul 2016	27 Week 27	5	Friday							
3	02/07/2016	2016	3 Q3	2016 - Q3	7 Jul	Jul 2016	27 Week 27	6	Saturday							
4	03/07/2016	2016	3 Q3	2016 - Q3	7 Jul	Jul 2016	27 Week 27	7	Sunday							
5	04/07/2016	2016	3 Q3	2016 - Q3	7 Jul	Jul 2016	28 Week 28	1	Monday							
6	05/07/2016	2016	3 Q3	2016 - Q3	7 Jul	Jul 2016	28 Week 28	2	Tuesday							
7	06/07/2016	2016	3 Q3	2016 - Q3	7 Jul	Jul 2016	28 Week 28	3	Wednesday							
8	07/07/2016	2016	3 Q3	2016 - Q3	7 Jul	Jul 2016	28 Week 28	4	Thursday							
9	08/07/2016	2016	3 Q3	2016 - Q3	7 Jul	Jul 2016	28 Week 28	5	Friday							
10	09/07/2016	2016	3 Q3	2016 - Q3	7 Jul	Jul 2016	28 Week 28	6	Saturday							
11	10/07/2016	2016	3 Q3	2016 - Q3	7 Jul	Jul 2016	28 Week 28	7	Sunday							
12	11/07/2016	2016	3 Q3	2016 - Q3	7 Jul	Jul 2016	29 Week 29	1	Monday							
13	12/07/2016	2016	3 Q3	2016 - Q3	7 Jul	Jul 2016	29 Week 29	2	Tuesday							
14	13/07/2016	2016	3 Q3	2016 - Q3	7 Jul	Jul 2016	29 Week 29	3	Wednesday							
15	14/07/2016	2016	3 Q3	2016 - Q3	7 Jul	Jul 2016	29 Week 29	4	Thursday							
16	15/07/2016	2016	3 Q3	2016 - Q3	7 Jul	Jul 2016	29 Week 29	5	Friday							
17	16/07/2016	2016	3 Q3	2016 - Q3	7 Jul	Jul 2016	29 Week 29	6	Saturday							
18	17/07/2016	2016	3 Q3	2016 - Q3	7 Jul	Jul 2016	29 Week 29	7	Sunday							
19	18/07/2016	2016	3 Q3	2016 - Q3	7 Jul	Jul 2016	30 Week 30	1	Monday							
20	19/07/2016	2016	3 Q3	2016 - Q3	7 Jul	Jul 2016	30 Week 30	2	Tuesday							
21	20/07/2016	2016	3 Q3	2016 - Q3	7 Jul	Jul 2016	30 Week 30	3	Wednesday							
22	21/07/2016	2016	3 Q3	2016 - Q3	7 Jul	Jul 2016	30 Week 30	4	Thursday							
23	22/07/2016	2016	3 Q3	2016 - Q3	7 Jul	Jul 2016	30 Week 30	5	Friday							
24	23/07/2016	2016	3 Q3	2016 - Q3	7 Jul	Jul 2016	30 Week 30	6	Saturday							
25	24/07/2016	2016	3 Q3	2016 - Q3	7 Jul	Jul 2016	30 Week 30	7	Sunday							

Visualizations Included:

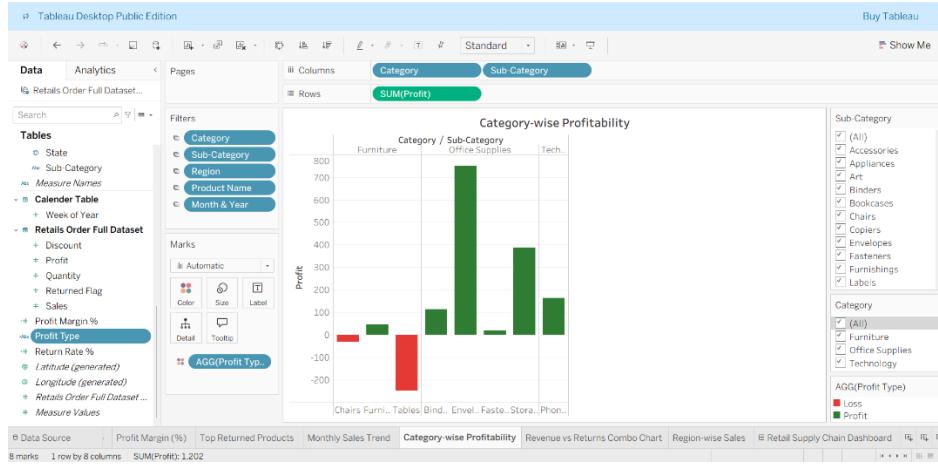
- Top Returned Products



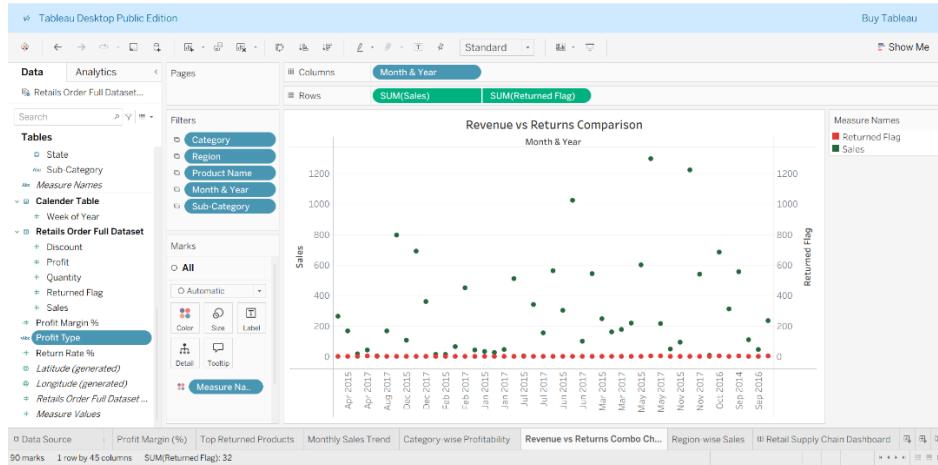
- Monthly Sales Trend



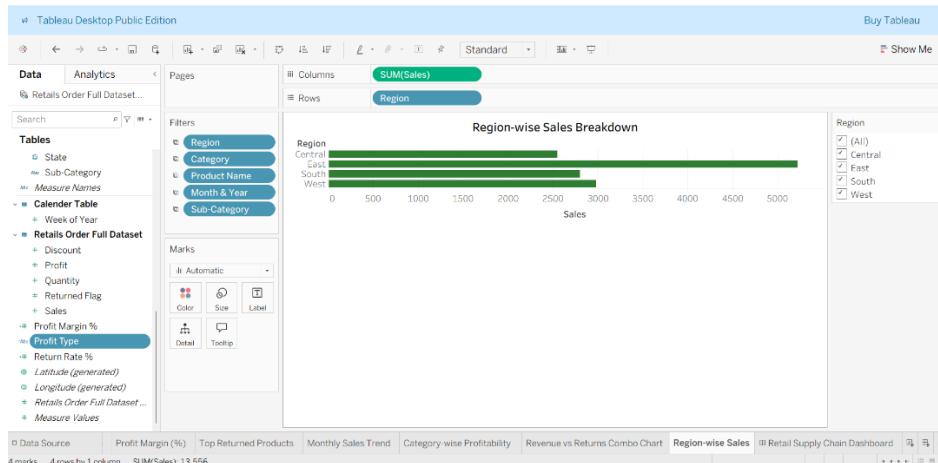
- Category-wise Profitability



- Revenue vs Returns Combo Chart



- Region-wise Sales Breakdown



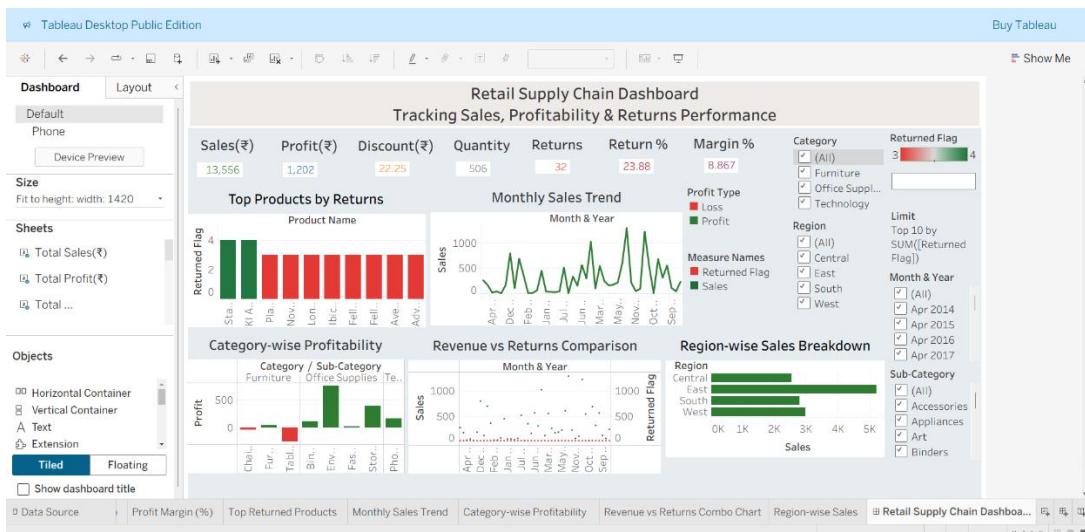
KPIs Monitored:

Metric	Description
Sales (₹)	Overall sales revenue generated
Profit (₹)	Net profit after all expenses
Discounts (₹)	Discounts provided to customers
Quantity	Total products sold
Returns	Number of items returned
Return Rate %	Percentage of orders returned
Profit Margin %	Net profit percentage of total sales

Filters Applied on Dashboard:

- Category
- Sub-Category
- Product Name
- Region
- Month & Year

Final Dashboard:



Analysis & Key Insights:

- Highest product returns observed for Product Name: Staple Envelope, indicating potential quality or service issues
 - Monthly Sales peaked in **May 2016** with a total Sales of **₹1,295**, followed by **November 2016** with Sales of **₹1,222** — as revealed in the Monthly Sales Trend analysis
 - Category-wise analysis shows that **Office Supplies** delivers maximum profitability, while the **Furniture** category consistently reports losses
 - Revenue vs Returns Combo Chart confirms highest Sales of **₹1,295** in May 2016 with **2 product returns**, and **₹1,222** in November 2016 with **1 product return**, highlighting that even peak sales periods face product return risks
 - Region-wise Sales breakdown reveals that the **East Region** achieved the highest total Sales of **₹5,224**, showcasing regional performance variance
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Conclusion:

The interactive dashboard empowers decision-makers to continuously track supply chain performance. By focusing on product-level returns, profitability trends, and regional sales breakdowns, businesses can reduce inefficiencies, optimize margins, and improve overall supply chain health.