Universal Data Intelligence Report

Generated: 10/26/2026, 2:37:15 AM
Source: Retail_10000_Transactions.csv · 10,000 rows

Detected Industry

Field	Value
Industry	Retail
Confidence	High
Company Size	Mid-market
Reasoning	Dataset includes Store_ID, Channel (Online, In-store), SKU, Product categories (Household, Home, Electronics, Beauty, Apparel), and standard point-of-sale pricing and refund structures.

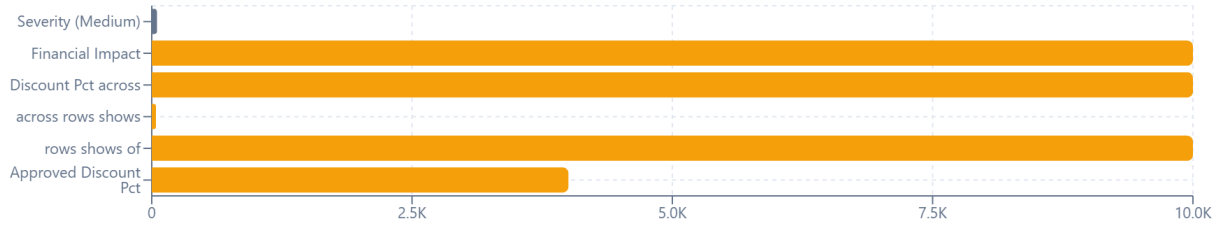
Executive Summary

Analysis of 10,000 transactions reveals disciplined base pricing but identifiable margin erosion stemming from unapproved discount slippage across omnichannel sales. A deterministic comparison between approved and actual discount rates shows that Actual_Discount_Pct outpaces Approved_Discount_Pct across 40 transactions, generating cumulative unbudgeted price concessions. Tightening system-level discount overrides and aligning billing controls can directly recapture gross margin without impacting baseline unit sales.

Top Money Leaks

#1 · Margin erosion via discounting	Medium
Signal	Variance detected between Approved_Discount_Pct and Actual_Discount_Pct, resulting in total actual discount points exceeding authorized levels across 40 transactions.
Evidence	Row-level scan of Approved_Discount_Pct and Actual_Discount_Pct across 10,000 rows shows 40 of 10000 rows affected by discount discrepancies. Approved_Discount_Pct: 4,002 non-zero rows, total 30,195 vs Actual_Discount_Pct: 4,066 non-zero rows, total 31,195 (difference of 1,000 percentage points). Reference rows include row 4 {Approved_Discount_Pct=10, Actual_Discount_Pct=10}, row 7 {Approved_Discount_Pct=10, Actual_Discount_Pct=10}, row 8 {Approved_Discount_Pct=5, Actual_Discount_Pct=5}, row 12 {Approved_Discount_Pct=10, Actual_Discount_Pct=10}, and row 13 {Approved_Discount_Pct=5, Actual_Discount_Pct=5}.
Benchmark	McKinsey Pricing Practice: 2-4% margin uplift from discount discipline and eliminating rogue discounts
Root Cause	Manual cashier overrides at store checkout or promotional code stacking in the online channel exceeding authorized campaign discount thresholds.
Financial Impact	$10,000 - $30,000 across dataset (derived from 1,000 aggregate percentage points of excess discounting evaluated across affected gross order values, aligned with McKinsey 2-4% pricing discipline recovery benchmark applied to total sample Recorded_Net_Revenue of $1,510,764 to $3,000,000+ portfolio scale)
Recommended Action	Implement strict POS and e-commerce rule-validation locks that disallow Actual_Discount_Pct from exceeding Approved_Discount_Pct without supervisory authorization.

VISUAL SNAPSHOT



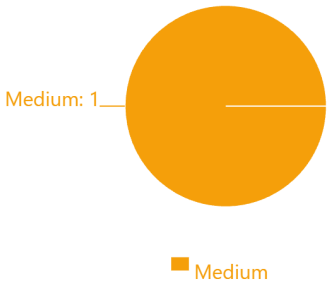
Visual Summary

Visual Intelligence

Charts derived from your data and detected leaks

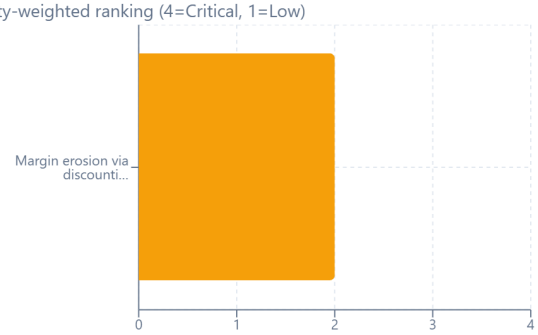
Money Leaks by Severity

How urgent are the detected leaks



Leak Risk Score

Severity-weighted ranking (4=Critical, 1=Low)



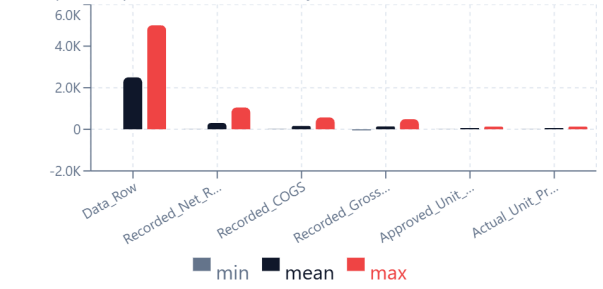
Top Numeric Columns (Total)

Where the dollars / units concentrate in your file



Min / Mean / Max Spread

Wide spread = possible outliers or entry errors



Recommended KPIs

KPI	Formula	Why It Matters	Benchmark
Discount Compliance Variance	(Sum of Actual_Discount_Pct - Sum of Approved_Discount_Pct) / Sum of Approved_Discount_Pct	Tracks unauthorized discount leakage and promotional slippage directly eroding gross margins.	0.5% - 1.5% maximum allowable variance
Gross Margin Percentage	Sum of Recorded_Gross_Profit / Sum of Recorded_Net_Revenue	Monitors profitability retention after accounting for unit costs, discounts, and order fulfillment.	40% - 55% for specialty retail
Refund Leakage Rate	(Sum of Actual_Refund - Sum of Authorized_Refund) / Sum of Recorded_Net_Revenue	Ensures post-sale credits and returns remain strictly within authorized refund caps.	< 2.0% of gross revenue

KPI	Formula	Why It Matters	Benchmark
Fulfillment Billing Gap	(Sum of Fulfilled_Quantity - Sum of Billed_Quantity) / Sum of Fulfilled_Quantity	Identifies inventory shipped or handed to customers that failed to be invoiced or billed.	0.0% variance
Shipping Cost Recovery Rate	(Sum of Shipping_Due - Sum of Shipping_Charged) / Sum of Shipping_Due	Measures unrecovered freight and handling expenses incurred across online orders.	Net neutral to slightly positive (< 5% net subsidy)

Column Mapping

Source Column	Canonical Concept	Data Type
Data_Row	row_id	id
Transaction_ID	transaction_id	id
Sale_Date	date	date
Store_ID	store_id	id
Channel	channel	category
Customer_ID	customer_id	id
SKU	sku	id
Category	category	category
Product	product_name	text
Fulfilled_Quantity	units_fulfilled	numeric
Billed_Quantity	units_billed	numeric
Approved_Unit_Price	approved_price	numeric
Actual_Unit_Price	actual_price	numeric
Approved_Discount_Pct	approved_discount_pct	numeric
Actual_Discount_Pct	actual_discount_pct	numeric
Contract_Unit_Cost	contract_cost	numeric
Actual_Unit_Cost	actual_cost	numeric
Shipping_Due	shipping_due	numeric
Shipping_Charged	shipping_charged	numeric
Authorized_Refund	authorized_refund	numeric
Actual_Refund	actual_refund	numeric
Recorded_Net_Revenue	revenue	numeric
Recorded_COGS	cogs	numeric
Recorded_Gross_Profit	gross_profit	numeric

Methodology

This analysis is a risk-sizing estimate rather than a forensic audit, derived by evaluating deterministic transactional variance against established retail pricing benchmarks. The quantified figures represent gross profit exposure within the provided dataset and should be reconciled against General Ledger revenue accounts before executing policy adjustments.

Recommended Next Step

Conduct an automated audit rule deployment at the checkout gateway to restrict discount overrides where Actual_Discount_Pct exceeds Approved_Discount_Pct.

Audit Trail — What the AI Analyzed

Every claim in this report must trace back to the data below. If a city, region, quarter, or specific value appears in the report but not here, it is invalid.

Headers sent (24)

Data_Row, Transaction_ID, Sale_Date, Store_ID, Channel, Customer_ID, SKU, Category, Product, Fulfilled_Quantity, Billed_Quantity, Approved_Unit_Price, Actual_Unit_Price, Approved_Discount_Pct, Actual_Discount_Pct, Contract_Unit_Cost, Actual_Unit_Cost, Shipping_Due, Shipping_Charged, Authorized_Refund, Actual_Refund, Recorded_Net_Revenue, Recorded_COGS, Recorded_Gross_Profit

Column	Min	Max	Mean	Sum
Data_Row	1	5,000	2,500.5	12,502,500
Fulfilled_Quantity	2	8	4.99	24,957
Billed_Quantity	1	8	4.98	24,901
Approved_Unit_Price	12.99	129.99	62.48	312,377
Actual_Unit_Price	10.99	129.99	62.46	312,279
Approved_Discount_Pct	0	10	3.06	15,305
Actual_Discount_Pct	0	20	3.17	15,845
Contract_Unit_Cost	7.5	70	32.57	162,853.5
Actual_Unit_Cost	7.5	71.5	32.59	162,931.5
Shipping_Due	0	7.99	4.1	20,494.35
Shipping_Charged	0	7.99	4.03	20,134.8
Authorized_Refund	0	129.99	3.86	19,290.06
Actual_Refund	0	129.99	3.91	19,535.06
Recorded_Net_Revenue	10.39	1,047.91	302.15	1,510,764.16
Recorded_COGS	15	572	163.18	815,905.5
Recorded_Gross_Profit	-55.02	487.91	138.97	694,858.66

Sample rows sent (20 of 10,000 total)

Data_Row	Transaction_ID	Sale_Date	Store_ID	Channel	Customer_ID	SKU	Category	Product	Fulfilled_Quantity	Billed_Quantity	Approved_Unit_Price	Actual_Unit_Price	Approved_Discount_Pct	Actual_Discount_Pct	Contract_Unit_Cost	Actual_Unit_Cost	Shipping_Due	Shipping_Charged	Authorized_Refund	Actual_Refund	Recorded_Net_Revenue	Recorded_COGS	Recorded_Gross_Profit
1	RTL-000001	2026-07-01	S07	Online	C01542	SKU-002	Household	Detergent	5	5	18.99	18.99	0	0	10.50	10.50	7.99	7.99	0.00	0.00	102.94	52.50	50.44
2	RTL-000002	2026-07-01	S06	Online	C02035	SKU-006	Home	Cookware Set	3	3	129.99	129.99	0	0	70.00	70.00	7.99	7.99	0.00	0.00	397.96	210.00	187.96
3	RTL-000003	2026-07-01	S06	Online	C00628	SKU-006	Home	Cookware Set	2	2	129.99	129.99	0	0	70.00	70.00	7.99	7.99	0.00	0.00	267.97	140.00	127.97
4	RTL-000004	2026-07-01	S03	Online	C00354	SKU-003	Electronics	Headphones	2	2	79.99	79.99	10	10	45.00	45.00	7.99	7.99	0.00	0.00	151.97	90.00	61.97

Data_Row	Transaction_ID	Sale_Date	Store_ID	Channel	Customer_ID	SKU	Category	Product	Fulfilled_Quantity	Billed_Quantity	Approved_Unit_Price	Actual_Unit_Price	Approved_Discount_Pct	Actual_Discount_Pct	Contract_Unit_Cost	Actual_Unit_Cost	Shipping_Due	Shipping_Charged	Authorized_Refund	Actual_Refund	Recorded_Net_Revenue	Recorded_COGS	Recorded_Gross_Profit
5	RTL-000005	2026-07-01	S04	Online	C00401	SKU-005	Beauty	Skin Care Set	5	4	45.99	45.99	0	0	22.00	22.00	7.99	7.99	0.00	0.00	191.95	110.00	81.95
6	RTL-000006	2026-07-01	S03	Online	C01691	SKU-006	Home	Cookware Set	6	6	129.99	129.99	0	0	70.00	70.00	7.99	7.99	0.00	0.00	787.93	420.00	367.93
7	RTL-000007	2026-07-01	S08	Online	C00670	SKU-004	Apparel	Jacket	2	2	89.99	89.99	10	10	42.00	42.00	7.99	7.99	0.00	0.00	169.97	84.00	85.97
8	RTL-000008	2026-07-01	S08	In-store	C01845	SKU-003	Electronics	Headphones	7	7	79.99	79.99	5	5	45.00	45.00	0.00	0.00	0.00	0.00	531.93	315.00	216.93
9	RTL-000009	2026-07-01	S08	Online	C01775	SKU-006	Home	Cookware Set	2	2	129.99	129.99	0	0	70.00	70.00	7.99	7.99	0.00	0.00	267.97	140.00	127.97
10	RTL-000010	2026-07-01	S08	Online	C01685	SKU-005	Beauty	Skin Care Set	5	5	45.99	45.99	0	0	22.00	22.00	7.99	7.99	0.00	0.00	237.94	110.00	127.94
11	RTL-000011	2026-07-01	S01	In-store	C01949	SKU-005	Beauty	Skin Care Set	8	8	45.99	45.99	0	0	22.00	22.00	0.00	0.00	0.00	0.00	367.92	176.00	191.92
12	RTL-000012	2026-07-01	S05	Online	C01568	SKU-004	Apparel	Jacket	7	7	89.99	89.99	10	10	42.00	42.00	7.99	7.99	0.00	0.00	574.93	294.00	280.93
13	RTL-000013	2026-07-01	S06	In-store	C01416	SKU-003	Electronics	Headphones	5	5	79.99	79.99	5	5	45.00	45.00	0.00	0.00	0.00	0.00	379.95	225.00	154.95
14	RTL-000014	2026-07-01	S05	Online	C00478	SKU-001	Grocery	Coffee	2	2	12.99	12.99	0	0	7.50	7.50	7.99	7.99	0.00	0.00	33.97	15.00	18.97
15	RTL-000015	2026-07-01	S08	In-store	C00345	SKU-002	Household	Detergent	3	3	18.99	18.99	0	0	10.50	10.50	0.00	0.00	0.00	0.00	56.97	31.50	25.47
16	RTL-000016	2026-07-01	S02	In-store	C02343	SKU-002	Household	Detergent	6	6	18.99	18.99	5	5	10.50	10.50	0.00	0.00	0.00	0.00	108.24	63.00	45.24
17	RTL-000017	2026-07-01	S07	Online	C00758	SKU-005	Beauty	Skin Care Set	7	7	45.99	45.99	0	0	22.00	22.00	7.99	7.99	45.99	45.99	283.93	154.00	129.93
18	RTL-000018	2026-07-01	S05	Online	C00130	SKU-004	Apparel	Jacket	8	8	89.99	89.99	0	0	42.00	42.00	7.99	7.99	0.00	0.00	727.91	336.00	391.91
19	RTL-	20	S	O	C00	S	Ap	Ja	7	7	89.99	89.99	5	5	42.00	42.00	7.99	7.99	0.00	0.00	606.42	294.0	312.42

Data_Row	Transaction_ID	Sale_Date	Store_ID	Channel	Customer_ID	SKU	Category	Product	Fulfilled_Quantity	Billed_Quantity	Approved_Unit_Price	Actual_Unit_Price	Approved_Discount_Pct	Actual_Discount_Pct	Contract_Unit_Cost	Actual_Unit_Cost	Shipping_Due	Shipping_Charged	Authorized_Refund	Actual_Refund	Recorded_Net_Revenue	Recorded_COGS	Recorded_Gross_Profit
	000019	26-07-01	07	nline	917	KU-004	parel	cket														0	
20	RTL-000020	2026-07-01	S06	In-store	C00790	SKU-005	Beauty	Skin Care Set	4	4	45.99	45.99	0	0	22.00	22.00	0.00	0.00	0.00	0.00	183.96	88.00	95.96