Universal Data Intelligence Report

Generated: 10/26/2026, 3:13:11 AM
Source: Manufacturing_Margin_Leakage_12500.csv · 12,500 rows

Detected Industry

Field	Value
Industry	Manufacturing
Confidence	High
Company Size	Mid-market
Reasoning	The dataset contains explicit production and cost-accounting fields such as Batch_ID, Plant, Standard_Material_Kg, Actual_Labor_Cost_USD, and Rework_Cost_USD.

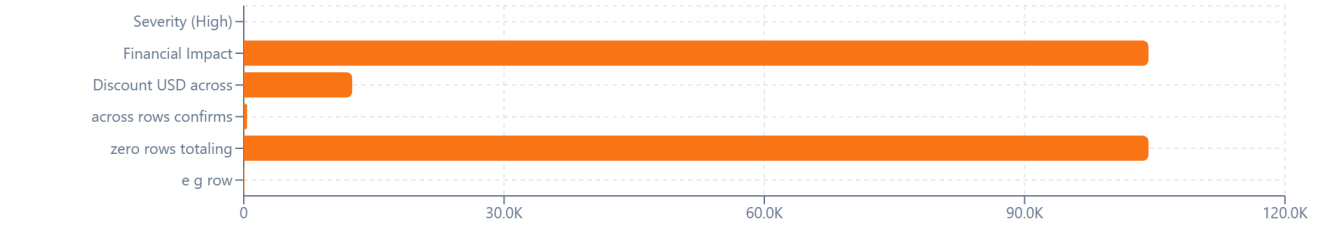
Executive Summary

Analysis of 12,500 manufacturing production batches reveals targeted margin leakage stemming from unapproved commercial discounts. Unapproved price concessions directly reduced top-line realized revenue by $104,266 across 374 batches. Implementing formal pricing approval controls and systematic billing reconciliation will eliminate this off-invoice leakage immediately.

Top Money Leaks

#1 · Margin erosion via discounting	High
Signal	Direct price erosion via unauthorized discounts recorded in Unapproved_Discount_USD ranging up to $500 per batch.
Evidence	Row-level scan of Unapproved_Discount_USD across 12,500 rows confirms 374 non-zero rows totaling $104,266 (e.g., row 57 with Unapproved_Discount_USD=390.00, row 123 with Unapproved_Discount_USD=157.00, row 199 with Unapproved_Discount_USD=496.00, row 288 with Unapproved_Discount_USD=128.00, and row 291 with Unapproved_Discount_USD=424.00).
Benchmark	McKinsey Pricing Practice: 2-4% margin uplift from discount discipline and leakage control
Root Cause	Sales representatives or billing personnel applying discretionary off-invoice concessions without ERP authorization or supervisory sign-off.
Financial Impact	$104,266 direct revenue leakage measured across 374 affected production batches
Recommended Action	Implement hard billing validation rules in the ERP prohibiting invoicing deviations from Contract_Unit_Price_USD without dual executive sign-off.

VISUAL SNAPSHOT



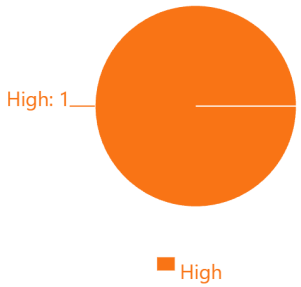
Visual Summary

Visual Intelligence

Charts derived from your data and detected leaks

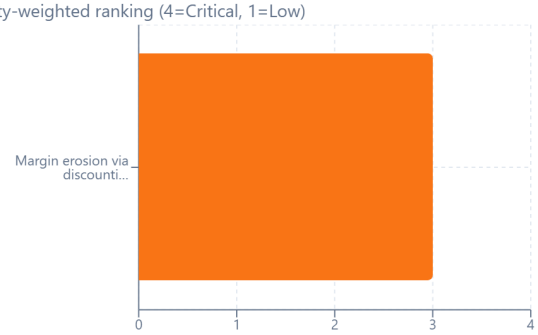
Money Leaks by Severity

How urgent are the detected leaks



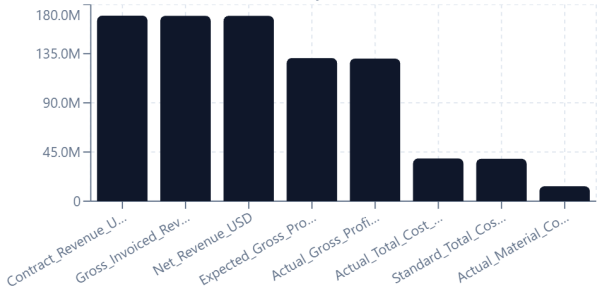
Leak Risk Score

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



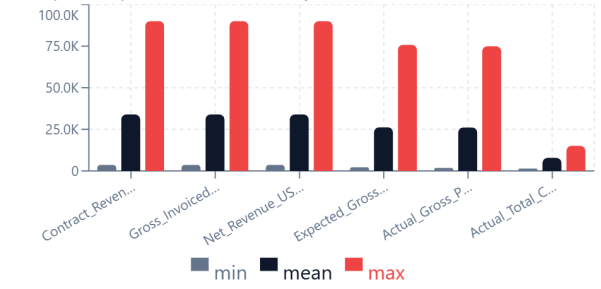
Top Numeric Columns (Total)

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
Unapproved Discount Rate	Total Unapproved_Discount_USD divided by Gross_Invoiced_Revenue_USD	Identifies unauthorized commercial leakage eroding top-line contract value.	< 0.5% of gross invoice value
Actual Gross Margin Pct	Actual_Gross_Profit_USD divided by Net_Revenue_USD	Measures underlying profitability after accounting for discounts and manufacturing variances.	65% - 80%
Total Cost Variance Pct	(Actual_Total_Cost_USD - Standard_Total_Cost_USD) divided by Standard_Total_Cost_USD	Quantifies operational cost overruns across material, labor, freight, and rework.	< 1.0% of standard cost

KPI	Formula	Why It Matters	Benchmark
Rework Cost Ratio	Rework_Cost_USD divided by Actual_Total_Cost_USD	Measures post-production quality failures and internal correction expense.	< 0.5% of total manufacturing cost
Freight Variance Rate	(Actual_Freight_USD - Standard_Freight_USD) divided by Standard_Freight_USD	Highlights unrecovered shipping premiums and expedited logistics costs.	< 2.0% variance

Column Mapping

Source Column	Canonical Concept	Data Type
Batch_ID	production_order_id	id
Production_Date	date	date
Plant	location	category
Product_SKU	product_id	id
Customer_ID	customer_id	id
Good_Units_Sold	units	numeric
Contract_Unit_Price_USD	price	numeric
Contract_Revenue_USD	gross_revenue	numeric
Unapproved_Discount_USD	discount	numeric
Net_Revenue_USD	revenue	numeric
Actual_Total_Cost_USD	cost	numeric
Actual_Gross_Margin_Pct	margin	numeric

Methodology

This assessment delivers a targeted risk-sizing estimate based on empirical row-level deviations rather than a forensic audit. Measured variances are benchmarked against industry standard pricing governance metrics to quantify baseline profit erosion. All identified discount leakage should be cross-verified directly against General Ledger revenue contra accounts.

Recommended Next Step

Enforce an automated approval threshold in the invoicing system to block any batch entry where Unapproved_Discount_USD exceeds zero without prior CFO sign-off.

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 (37)

Data_Row, CSV_Line, Batch_ID, Production_Date, Plant, Product_SKU, Customer_ID, Currency, Good_Units_Sold, Contract_Unit_Price_USD, Contract_Revenue_USD, Gross_Invoiced_Revenue_USD, Unapproved_Discount_USD, Net_Revenue_USD, Standard_Material_Kg, Actual_Material_Kg, Standard_Material_Rate_USD_Kg, Actual_Material_Rate_USD_Kg, Standard_Material_Cost_USD, Actual_Material_Cost_USD, Standard_Labor_Cost_USD, Actual_Labor_Cost_USD, Standard_Energy_USD, Actual_Energy_USD, Standard_Freight_USD, Actual_Freight_USD, Allocated_Overhead_USD, Rework_Cost_USD, Standard_Total_Cost_USD, Actual_Total_Cost_USD, Expected_Gross_Profit_USD, Actual_Gross_Profit_USD, Expected_Gross_Margin_Pct, Actual_Gross_Margin_Pct, Total_Leakage_USD, Leakage_Count, Leakage_Types

Column	Min	Max	Mean	Sum
Data_Row	1	5,000	2,500.5	12,502,500
CSV_Line	2	5,001	2,501.5	12,507,500
Good_Units_Sold	50	500	272.65	1,363,258
Contract_Unit_Price_USD	70	180	124.82	624,083
Contract_Revenue_USD	3,600	90,000	33,963.21	169,816,074
Gross_Invoiced_Revenue_USD	3,600	90,000	33,928.18	169,640,876
Unapproved_Discount_USD	0	500	8.52	42,585
Net_Revenue_USD	3,600	90,000	33,919.66	169,598,291
Standard_Material_Kg	100	1,000	545.3	2,726,516
Actual_Material_Kg	100	1,043	546.43	2,732,146
Standard_Material_Rate_USD_Kg	5	5	5	25,000
Actual_Material_Rate_USD_Kg	5	6	5.02	25,087.9
Standard_Material_Cost_USD	500	5,000	2,726.52	13,632,580
Actual_Material_Cost_USD	500	5,766.24	2,741.75	13,708,735.04
Standard_Labor_Cost_USD	450	4,500	2,453.86	12,269,322
Actual_Labor_Cost_USD	450	5,344	2,467.52	12,337,602
Standard_Energy_USD	100	1,000	545.3	2,726,516
Actual_Energy_USD	100	1,283	550.53	2,752,647
Standard_Freight_USD	75	750	408.98	2,044,887
Actual_Freight_USD	75	1,272	419.8	2,099,012
Allocated_Overhead_USD	300	3,000	1,635.91	8,179,548
Rework_Cost_USD	0	700	11.94	59,701
Standard_Total_Cost_USD	1,425	14,250	7,770.57	38,852,853
Actual_Total_Cost_USD	1,425	15,094	7,827.45	39,137,245.04
Expected_Gross_Profit_USD	2,175	75,750	26,192.64	130,963,221
Actual_Gross_Profit_USD	1,794.5	74,906	26,092.21	130,461,045.96
Expected_Gross_Margin_Pct	59.29	84.17	75.51	377,555.87
Actual_Gross_Margin_Pct	45.95	84.17	75.21	376,069.7

Column	Min	Max	Mean	Sum
Total_Leakage_USD	0	4,388	100.44	502,175.04
Leakage_Count	0	2	0.24	1,188
Leakage_Types	0	0	0	0

Sample rows sent (20 of 12,500 total)

Data_Row	CSV_Line	Batch_ID	Production_Date	Plant	Product_SKU	Customer_ID	Currency	Good_Units_Sold	Contract_Unit_Price_USD	Contract_Revenue_USD	Gross_Invoiced_Revenue_USD	Unapproved_Discount_USD	Net_Revenue_USD	Standard_Material_Kg	Actual_Material_Kg	Standard_Material_Rate_USD_Kg	Actual_Material_Rate_USD_Kg	Standard_Material_Cost_USD	Actual_Material_Cost_USD	Standard_Labor_Cost_USD	Actual_Labor_Cost_USD	Standard_Energy_USD	Actual_Energy_USD	Standard_Freight_USD	Actual_Freight_USD	Allocated_Overhead_USD	Rework_Cost_USD	Standard_Total_Cost_USD	Actual_Total_Cost_USD	Expected_Gross_Profit_USD	Actual_Gross_Profit_USD	Expected_Gross_Margin_Pct	Actual_Gross_Margin_Pct	Total_Leakage_USD	Leakage_Count	Leakage_Types
1	2	MFG-0000001	2026-01-01	NJ	SKU-001	CUST-001	USD	108	110	11880.00	11880.00	0.00	11880.000	216	216	5.00	5.00	1080.00	1080.00	972.00	972.00	216.00	216.00	162.00	162.00	648.00	0.00	3078.00	3078.00	8802.00	8802.00	74.0909	74.0909	0.00	0	
2	3	MFG-0000002	2026-01-01	PA	SKU-002	CUST-002	USD	98	127	12446.00	12446.00	0.00	12446.000	196	196	5.00	5.00	980.00	980.00	882.00	882.00	196.00	196.00	147.00	147.00	588.00	0.00	2793.00	2793.00	9653.00	9653.00	77.5591	77.5591	0.00	0	
3	4	MFG-0000003	2026-01-01	OH	SKU-003	CUST-003	USD	126	152	19152.00	19152.00	0.00	19152.000	252	252	5.00	5.00	1260.00	1260.00	1134.00	1134.00	252.00	252.00	189.00	189.00	756.00	0.00	3591.00	3591.00	15561.00	15561.00	81.2500	81.2500	0.00	0	
4	5	MFG-0000004	2026-01-01	NJ	SKU-004	CUST-004	USD	397	98	38906.00	38906.00	0.00	38906.000	794	794	5.00	5.00	3970.00	3970.00	3573.00	3573.00	794.00	794.00	595.50	595.50	2382.00	0.00	11314.50	11314.50	27591.50	27591.50	70.9184	70.9184	0.00	0	
5	6	MFG-0000005	2026-01-01	PA	SKU-005	CUST-005	USD	478	150	71700.00	71700.00	0.00	71700.000	956	956	5.00	5.00	4780.00	4780.00	4302.00	4302.00	956.00	956.00	717.00	717.00	1011.00	2868.00	0.00	13623.00	13917.00	58077.00	57783.00	81.0000	80.5900	294.00	1	Expeditedfreight

Data_Row	CSV_Line	Batch_ID	Production_Date	Plant	Product_SKU	Customer_ID	Currency	Good_Units_Sold	Contract_Unit_Price_USD	Contract_Revenue_USD	Gross_Invoiced_Revenue_USD	Unapproved_Discount_USD	Net_Revenue_USD	Standard_Material_Kg	Actual_Material_Kg	Standard_Material_Rate_USD_Kg	Actual_Material_Rate_USD_Kg	Standard_Material_Cost_USD	Actual_Material_Cost_USD	Standard_Labor_Cost_USD	Actual_Labor_Cost_USD	Standard_Energy_USD	Actual_Energy_USD	Standard_Freight_USD	Actual_Freight_USD	Allocated_Overhead_USD	Rework_Cost_USD	Standard_Total_Cost_USD	Actual_Total_Cost_USD	Expected_Gross_Profit_USD	Actual_Gross_Profit_USD	Expected_Gross_Margin_Pct	Actual_Gross_Margin_Pct	Total_Leakage_USD	Leakage_Count	Leakage_Types
6	7	MFG-0000006	2026-01-01	OH	SKU-006	CUST-006	USD	110	138	151180.00	151180.00	0.00	151180.000	220	220	5.00	5.00	110000	110000	990.00	99000	2200.00	2200.00	165.00	165.00	6600.00	0.000	31350	31350.00	120450.00	120450.00	79.3478	79.34878	0.00	0	
7	8	MFG-0000007	2026-01-01	NJ	SKU-007	CUST-007	USD	470	95	44650.00	44650.00	0.00	44650.000	940	940	5.00	5.00	47000.00	47000.00	4230.00	4992.00	940.00	940.00	705.00	705.00	2820.00	0.000	13395.00	14157.00	31255.00	30493.00	70.0000	68.29234	762.00	1	Labor inefficiency/overtime
8	9	MFG-0000008	2026-01-01	PA	SKU-008	CUST-008	USD	114	166	18924.00	18924.00	0.00	18924.000	228	228	5.00	5.00	11400.00	11400.00	1026.00	1026.00	228.00	228.00	171.00	171.00	684.00	0.000	3249.00	3249.00	15675.00	15675.00	82.83313	82.83313	0.00	0	
9	10	MFG-0000009	2026-01-01	OH	SKU-009	CUST-009	USD	345	164	56580.00	56580.00	0.00	56580.000	690	690	5.00	5.00	34500.00	34500.00	3105.00	3105.00	690.00	690.00	517.50	517.50	2070.00	0.000	9832.50	9832.50	46747.50	46747.50	82.6220	82.62220	0.00	0	
10	11	MFG-0000010	2026-01-01	NJ	SKU-010	CUST-010	USD	257	84	21588.00	21588.00	0.00	21588.000	514	514	5.00	5.00	25700.00	25700.00	2313.00	2313.00	514.00	514.00	385.50	385.50	1542.00	0.000	7324.50	7324.50	14263.50	14263.50	66.0714	66.07014	0.00	0	
11	12	MF	2026	PA	SKU-	CUST	USD	355	179	63545.00	63545.00	0.00	6354	710	710	5.00	5.00	35500.00	35500.00	3195.00	3195.00	710.00	710.00	532.50	532.50	2130.00	0.000	10117.50	10117.50	53427.50	53427.50	84.0782	84.07882	0.00	0	

Data_Row	CSV_Line	Batch_ID	Production_Date	Plant	Product_SKU	Customer_ID	Currency	Good_Units_Sold	Contract_Unit_Price_USD	Contract_Revenue_USD	Gross_Invoiced_Revenue_USD	Unapproved_Discount_USD	Net_Revenue_USD	Standard_Material_Kg	Actual_Material_Kg	Standard_Material_Rate_USD_Kg	Actual_Material_Rate_USD_Kg	Standard_Material_Cost_USD	Actual_Material_Cost_USD	Standard_Labor_Cost_USD	Actual_Labor_Cost_USD	Standard_Energy_USD	Actual_Energy_USD	Standard_Freight_USD	Actual_Freight_USD	Allocated_Overhead_USD	Rework_Cost_USD	Standard_Total_Cost_USD	Actual_Total_Cost_USD	Expected_Gross_Profit_USD	Actual_Gross_Profit_USD	Expected_Gross_Margin_Pct	Actual_Gross_Margin_Pct	Total_Leakage_USD	Leakage_Count	Leakage_Types
		G-0000011	-01-01	011	-011								5.00																						
12	13	MFG-0000012	2026-01-01	OH	SKU-0112	CUST-012	USD	281	78	21918.0	21918.0	0.00	21918.000	562	585	5.00	5.00	2810.00	2925.00	2529.00	2529.00	562.00	562.00	421.50	421.50	1686.00	0.00	8008.50	8123.50	13909.50	13794.50	63.4615	62.9369	115.00	1	Excess material usage/scrap
13	14	MFG-0000013	2026-01-01	NJ	SKU-001	CUST-013	USD	270	172	46440.0	46440.0	0.00	46440.000	540	540	5.00	5.00	2700.00	2700.00	2430.00	2430.00	540.00	540.00	405.00	405.00	1620.00	0.00	7695.00	7695.00	38745.00	38745.00	83.4302	83.4302	0.00	0	
14	15	MFG-0000014	2026-01-01	PA	SKU-002	CUST-014	USD	331	135	44685.0	44685.0	0.00	44685.000	662	662	5.00	5.00	3310.00	3310.00	2979.00	2979.00	662.00	662.00	496.50	496.50	1986.00	0.00	9433.50	9433.50	35251.50	35251.50	78.8889	78.8889	0.00	0	
15	16	MFG-0000015	2026-01-01	OH	SKU-003	CUST-015	USD	267	115	30705.0	30705.0	0.00	30705.000	534	534	5.00	5.00	2670.00	2670.00	2403.00	2403.00	534.00	534.00	400.50	400.50	1602.00	0.00	7609.50	7609.50	23095.50	23095.50	75.2174	75.2174	0.00	0	
16	17	MFG-	2026-0	NJ	SKU-00	CUST-01	USD	185	85	15725.0	15725.0	0.00	15725.00	370	370	5.00	5.00	1850.00	1850.00	1665.00	1665.00	370.00	370.00	277.50	277.50	1110.00	0.00	5272.50	5272.50	10452.50	10452.50	66.4706	66.4706	0.00	0	

Data_Row	CSV_Line	Batch_ID	Production_Date	Plant	Product_SKU	Customer_ID	Currency	Good_Units_Sold	Contract_Unit_Price_USD	Contract_Revenue_USD	Gross_Invoiced_Revenue_USD	Unapproved_Discount_USD	Net_Revenue_USD	Standard_Material_Kg	Actual_Material_Kg	Standard_Material_Rate_USD_Kg	Actual_Material_Rate_USD_Kg	Standard_Material_Cost_USD	Actual_Material_Cost_USD	Standard_Labor_Cost_USD	Actual_Labor_Cost_USD	Standard_Energy_USD	Actual_Energy_USD	Standard_Freight_USD	Actual_Freight_USD	Allocated_Overhead_USD	Rework_Cost_USD	Standard_Total_Cost_USD	Actual_Total_Cost_USD	Expected_Gross_Profit_USD	Actual_Gross_Profit_USD	Expected_Gross_Margin_Pct	Actual_Gross_Margin_Pct	Total_Leakage_USD	Leakage_Count	Leakage_Types
		0000016	1-01		4	6							0																						
17	18	MFG-0000017	2026-01-01	PA	SKU-005	CUST-017	USD	126	103	12978.00	12978.00	0.00	1297800	252	252	5.00	5.00	1260.00	1260.00	1134.00	1134.00	252.00	252.00	189.00	189.00	756.00	0.00	3591.00	3591.00	9387.00	9387.00	72.33301	72.33301	0.00	0	
18	19	MFG-0000018	2026-01-01	OH	SKU-006	CUST-018	USD	406	144	58464.00	58464.00	0.00	5846400	812	812	5.00	5.00	4060.00	4060.00	3654.00	3654.00	812.00	812.00	609.00	609.00	2436.00	0.00	11571.00	11571.00	46893.00	46893.00	80.2083	80.2083	0.00	0	
19	20	MFG-0000019	2026-01-01	NJ	SKU-007	CUST-019	USD	381	150	57150.00	57150.00	0.00	5715000	762	762	5.00	5.00	3810.00	3810.00	3429.00	3429.00	762.00	762.00	571.50	571.50	2286.00	0.00	10858.50	10858.50	46291.50	46291.50	81.0000	81.0000	0.00	0	
20	21	MFG-0000020	2026-01-01	PA	SKU-008	CUST-020	USD	242	102	24684.00	24684.00	0.00	2468400	484	484	5.00	5.00	2420.00	2420.00	2178.00	2178.00	484.00	484.00	363.00	363.00	1452.00	163.00	6897.00	7060.00	17787.00	17624.00	72.0588	71.39385	163.00	1	Quality rework