

# What-If Scenario Analysis

## ◆ Boosting Profits with a What-If Planner in Excel Problem:

📊 Many businesses offer discounts to boost sales but unknowingly hurt their profits.

### My Solution:

🔧 Built a **What-If Planner** in Excel to simulate pricing, volume, and cost scenarios.

🔄 Users can tweak input values and instantly see impact on profit margins.

### Key Insight:

📌 Just a 5% reduction from both pre- and post-invoice discounts, literally turn around 📉 A **Half-billion-dollar loss** (-\$522M) into a ➡ **\$19M profit** — without even touching COGS or Operational Expenses!

🧠 Lesson: Sales  $\neq$  Profit. Strategy matters.

### Tools Used:

- Data Validation
- Scenario Manager
- Conditional Formatting
- Dynamic Charts

Line Items	Curent Scenario	What-if Scenario
Gross sales	\$ 7.37B	\$ 7.37B
pre_invoice amnt	\$ 1.73B	\$ 1.36B
Net invoice sales	\$ 5.64B	\$ 6.01B
Post Invoice deduction	\$ 1.91B	\$ 1.73B
Net Sales	\$ 3.74B	\$ 4.28B
Freight_cost	\$ 0.10B	\$ 0.10B
Manufacturing_cost	\$ 2.20B	\$ 2.20B
Other_cost	\$ 0.02B	\$ 0.02B
COGS	\$ 2.31B	\$ 2.32B
Operational Expense	\$ 1.95B	\$ 1.95B
Overall Expense	\$ 4.26B	\$ 4.26B
Net Profit	📉 -\$ 522.43M	📈 \$ 19.14M



## What IF - Analysis

Current Discount %		Input Discount %		Line Items	Curent Scenario	What-if Scenario	Difference in Discount %	
Pre Invoice	23.4%	Pre Inoice	18.4%	Gross sales	\$ 7.37B	\$ 7.37B	Pre Inoice	5.0%
Post invoice	33.8%	Post invoice	28.8%	pre_invoice amnt	\$ 1.73B	\$ 1.36B	Post invoice	5.0%
				Net invoice sales	\$ 5.64B	\$ 6.01B		
Ccurrent COGS %		Input COGS %		Post Invoice deduction	\$ 1.91B	\$ 1.73B	Difference in COGS %	
Freight	2.4%	Freight	2.4%	Net Sales	\$ 3.74B	\$ 4.28B	Freight	0.0%
Manufacturing cost	51.6%	Manufacturing cost	51.6%	Freight_cost	\$ 0.10B	\$ 0.10B	Manufacturing cost	0.0%
Other cost	0.4%	Other cost	0.4%	Manufacturing_cost	\$ 2.20B	\$ 2.20B	Other cost	0.0%
				Other_cost	\$ 0.02B	\$ 0.02B		
Total COGS	54.3%	Totral COGS	54.4%	COGS	\$ 2.31B	\$ 2.32B	Total COGS	0%
				Operational Expense	\$ 1.95B	\$ 1.95B		
				Overall Expense	\$ 4.26B	\$ 4.26B		
Current OpEx %		Input OpEx %		Net Profit	⬇️-\$ 522.43M	⬆️\$ 19.14M	Difference in OpEx %	
45.7%		45.7%				0.0%		