

Pricing Analysis & Recommendations – Executive Overview

(Round 3 Assessment)

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➤ Summary

XYZ Company sells eco-friendly tableware products on online marketplaces. It manages a diverse catalog with different costs, demand patterns, inventory levels, and competitive situations. This analysis aimed to create and explain a pricing strategy that the business could realistically implement, based on data analysis. By examining the provided datasets, I identified and evaluated key pricing signals, including cost and margin structure, competitor pricing, inventory status, demand effectiveness, and return patterns. These signals were combined into a structured, rule-based pricing framework that generates clear and justifiable price recommendations for each SKU. This approach allows for more consistent, data-driven pricing decisions while balancing profitability, growth, and operational stability.

➤ Problem Statement

The Company's pricing decisions are reactive and lack a clear, data-driven framework. This results in inconsistent outcomes across its product catalog. Prices are often changed without a clear balance of profitability, market competitiveness, demand behavior, and inventory health. The business needs a systematic pricing approach that uses available data to identify important pricing signals and translate them into consistent, understandable SKU-level price recommendations.

➤ Pricing strategy explanation :

Purpose :

The goal of this pricing framework is to suggest SKU-level prices that maintain margin protection, remain competitive in the market, and respond to demand signals, all while being practical for business execution.

Base_Price	After_Competitor_Price	Inventory_Factory	After_Inventory_Price	Demand_Factor	After_Demand_Price	Final_Recommended_Price	Promo_Status	Price_Increase_Potential
\$49.69	\$96.90	1.00	\$96.90	1.00	\$98.01	\$48.08	Competitor benchmark, Strong ads, High ad cost.	No
\$40.92	\$53.10	1.00	\$53.10	1.00	\$53.50	\$33.25	Competitor benchmark, Strong ads, High ad cost.	No
\$46.28	\$95.20	1.00	\$95.20	1.00	\$95.20	\$37.54	Competitor benchmark, Strong ads, High ad cost.	No
\$39.91	\$28.40	0.95	\$28.40	0.95	\$29.43	\$23.43	Competitor benchmark, Strong ads, High ad cost.	No
\$46.85	\$25.50	0.95	\$22.71	0.95	\$22.57	\$34.36	Competitor benchmark, High ad cost.	No
\$28.13	\$15.80	1.00	\$15.80	0.95	\$15.81	\$18.38	Low inventory, Competitor benchmark, High ad cost.	No
\$329.94	\$38.50	1.00	\$38.50	1.00	\$38.50	\$89.33	Competitor benchmark, Strong ads, High ad cost.	No
\$47.47	\$31.30	0.95	\$29.64	1.00	\$29.64	\$34.81	Overshoot, Competitor benchmark, Strong ads, High ad cost.	No
\$27.18	\$15.80	0.95	\$14.82	1.00	\$14.82	\$19.89	Competitor benchmark, Strong ads, High ad cost.	No
\$26.77	\$20.94	0.95	\$19.48	1.00	\$19.48	\$21.75	Overshoot, Competitor benchmark, Strong ads, High ad cost.	No
\$25.48	\$17.80	0.95	\$16.81	1.00	\$16.81	\$19.08	Competitor benchmark, Strong ads, High ad cost.	No
\$27.49	\$21.40	1.00	\$21.40	0.95	\$20.19	\$22.34	Competitor benchmark, Strong ads, High ad cost.	No
\$27.58	\$24.20	1.00	\$24.20	1.00	\$24.20	\$24.30	Competitor benchmark, Strong ads, High ad cost.	Yes
\$38.35	\$27.80	1.05	\$28.19	0.95	\$27.73	\$33.18	Competitor benchmark, High ad cost.	No
\$29.68	\$23.40	1.00	\$22.40	0.95	\$22.38	\$24.85	Competitor benchmark, High ad cost.	No
\$26.77	\$20.10	1.00	\$20.50	0.95	\$19.31	\$21.75	Competitor benchmark, Strong ads, High ad cost.	No
\$43.05	\$51.50	1.00	\$50.50	1.00	\$51.50	\$34.88	Competitor benchmark, Strong ads, High ad cost.	No
\$41.66	\$28.80	1.00	\$28.80	1.00	\$28.80	\$34.65	Competitor benchmark, Strong ads, High ad cost.	No
\$30.08	\$50.90	1.00	\$40.85	1.00	\$40.85	\$41.18	Competitor benchmark, Strong ads, High ad cost.	No
\$36.95	\$21.50	1.00	\$12.50	1.00	\$12.50	\$18.78	Competitor benchmark, Strong ads, High ad cost.	No
\$28.85	\$25.10	1.00	\$23.10	1.00	\$23.10	\$24.25	Low inventory, Competitor benchmark, Strong ads, High ad cost.	No
\$29.16	\$21.90	1.00	\$21.90	1.00	\$21.90	\$23.85	Competitor benchmark, Strong ads, High ad cost.	No
\$36.06	\$10.00	1.00	\$10.00	1.00	\$10.00	\$13.00	Competitor benchmark, Strong ads, High ad cost.	No
\$34.09	\$20.80	0.95	\$19.76	1.00	\$19.76	\$19.76	Competitor benchmark, Strong ads, High ad cost.	Yes
\$48.02	\$15.50	1.05	\$17.28	1.00	\$18.89	\$28.03	Competitor benchmark, Strong ads, High ad cost.	No
\$41.31	\$30.40	1.00	\$30.40	1.00	\$30.40	\$38.56	Competitor benchmark, Strong ads, High ad cost.	No
\$37.39	\$29.90	1.00	\$29.90	1.00	\$29.90	\$30.33	Competitor benchmark, Strong ads, High ad cost.	No
\$34.57	\$26.20	1.00	\$26.20	1.00	\$26.20	\$28.00	Competitor benchmark, Strong ads, High ad cost.	No
\$27.25	\$21.80	1.00	\$22.80	1.00	\$22.80	\$22.80	Competitor benchmark, Strong ads, High ad cost.	Yes
\$54.22	\$38.40	1.00	\$58.40	0.95	\$54.58	\$44.04	Competitor benchmark, Strong ads, High ad cost.	No
\$40.65	\$28.80	0.95	\$28.31	1.00	\$28.31	\$33.19	Overshoot, Competitor benchmark, Strong ads, High ad cost.	No
\$38.78	\$21.50	1.00	\$27.50	1.05	\$28.35	\$28.87	Competitor benchmark, Strong ads, High ad cost.	No
\$36.09	\$34.09	0.95	\$53.39	1.00	\$53.39	\$33.36	Strong ads, High ad cost.	Yes
\$43.75	\$53.80	1.00	\$53.80	1.05	\$54.41	\$35.35	Overshoot, Competitor benchmark, Strong ads, High ad cost.	No
\$48.89	\$32.90	1.00	\$32.90	1.00	\$32.90	\$55.81	Competitor benchmark, Strong ads, High ad cost.	No

Pricing Framework Overview :

The pricing logic was structured as a rule-based, interpretable framework instead of a complex optimization model. This approach ensures transparency and makes it easier for pricing and operations teams to adopt.

Step-by-step Pricing Logic :

1. Cost & Margin Floor (Primary Constraint)

For each SKU, I had a minimum price based on required margin. This sets a firm lower limit, ensuring no recommendation leads to a loss.

2. Competitor Benchmarking

I looked at competitor prices by analyzing average effective competitor pricing. When possible, these benchmarks help inform pricing decisions, but they never go below the margin floor.

3. Inventory-Based Adjustments

I used inventory health indicators (days of supply / weeks to cover) to adjust prices. Low inventory leads to higher prices to maintain availability. Excess inventory puts downward pressure on prices where margins allow.

4. Demand & Advertising Signals

We assessed demand strength using ROAS, ACOS, and conversion rates:

- Strong demand leads to modest price increases.
- Weak or inefficient demand results in conservative pricing.

5. Safeguards & Final Recommendation

The final suggested price combines all adjustments and ensures:

- Margin protection
- Logical limits
- Conservative increases

So that I can guarantee that, this strategy is understandable and safe for operations.

➤ Detailed Summary of data analysis performed :

Datasets Used :

I used Multiple datasets provided in the assessment attachments and they are:

- Pricing Data: current price, total cost, min price, margin structure etc.
- Competitor Data: lowest, highest, and average competitor prices etc.
- Inventory Health: days of supply, weeks to cover etc.
- Ads Performance: ROAS, ACOS (7-day / 14-day) etc.
- Historical Sales: total session, units order, conversion rate etc.
- Returns Data: used qualitatively to assess risk, not as a pricing tool.

Key Signals Identified :

Margin Constraint as a Structural Signal :

Many SKUs faced limits due to minimum viable price, showing that current market prices are often below sustainable cost levels.

Selective Pricing Headroom :

Only 13 out of 50 SKUs displayed significant pricing headroom, indicating that pricing flexibility is selective, not widespread.

Demand as the Primary Upside Driver :

SKUs with strong ROAS and high conversion rates consistently matched price increase recommendations.

Inventory as a Secondary Lever :

Inventory signals affected pricing decisions but were less influential than margin and demand factors.

Return Risk Assessment :

SKU returns over the 7-day, 30-day, 60-day, and 90-day periods were examined to evaluate potential execution risks related to pricing changes. A return risk tier was established using 90-day return volumes.

SKUs with higher return risks were managed carefully to prevent price increases that might lead to customer dissatisfaction or lost sales.

Analysis Flow :

My analysis started by merging several datasets, which included pricing, competitor pricing, inventory health, advertising performance, historical sales, and product returns. Each dataset was checked for completeness, cleaned to eliminate missing or inconsistent values, and standardized at the SKU level to ensure reliable comparisons across datasets.

Next, key pricing signals were obtained from the cleaned data. I got to know about the Current selling price , Minimum price required, Target price and margin for profit and loss.I examined competitor pricing data to understand the market price range and to see where we could align competitively without breaking margin rules.



Then I evaluated inventory health indicators, like days of supply and weeks to cover, to gauge supply-side pressure. I marked SKUs with low inventory for careful pricing, while reviewed overstocked SKUs for possible downward pricing adjustments where margins allowed.

I assessed sales history and advertising performance using columns like ROAS, ACOS, and conversion rates. These signals helped me to identify SKUs with strong demand efficiency that could handle price increases, as well as those with limited pricing flexibility due to weaker performance.

Finally studied product return behavior across different time frames to assess execution risk. I created a return risk tier using data from the last 90 days to flag SKUs that needed careful price adjustments. This led to final price recommendations for each SKU and clear actions for execution.

➤ Final Pricing Recommendations & Key Insights

Summary of Recommendations

13 SKUs: Recommend price increases due to strong demand and enough margin room.
 37 SKUs: Recommend keeping current prices because of margin limits or competitive pressure.

Key Insights

- Most SKUs have protected margins, showing challenges in structural cost competitiveness.
- There is potential for price increases, but it's limited to a small group of high-performing SKUs.
- Matching market prices aggressively is not possible for many products without reducing margins.
- Demand efficiency, including ROAS and conversion, is the best sign for safe price increases.

SKU	Current_Price	Head_Recommended_Price	Price_Change_on_CurrentPrice	Min_Price	Price_Uncertainty_Potential	Priority_Pricing_Driver	Action_Recommended	Return_Risk
MN-01	\$38.90	\$40.38	\$1.47	\$0.38	No	Minimum margin constraint	Hold price (margin floor)	Low Risk
MN-02	\$23.90	\$23.25	-\$0.65	\$1.25	No	Minimum margin constraint	Hold price (margin floor)	Low Risk
MN-03	\$34.90	\$37.54	\$2.64	\$7.54	No	Minimum margin constraint	Hold price (margin floor)	Low Risk
MN-04	\$29.90	\$32.43	\$2.53	\$2.43	No	Minimum margin constraint	Hold price (margin floor)	Low Risk
MN-05	\$21.90	\$24.36	\$2.46	\$4.36	No	Minimum margin constraint	Hold price (margin floor)	Low Risk
MN-06	\$24.95	\$19.18	-\$5.77	\$0.18	No	Minimum margin constraint	Hold price (margin floor)	Low Risk
MN-07	\$17.89	\$28.31	\$10.42	\$8.31	No	Minimum margin constraint	Hold price (margin floor)	Low Risk
MN-08	\$29.90	\$34.81	\$4.91	\$4.81	No	Minimum margin constraint	Hold price (margin floor)	Low Risk
MN-09	\$14.90	\$19.89	\$4.99	\$9.89	No	Minimum margin constraint	Hold price (margin floor)	Low Risk
MN-10	\$28.90	\$21.73	-\$7.17	\$1.73	No	Minimum margin constraint	Hold price (margin floor)	Low Risk
MN-11	\$16.90	\$19.08	\$2.18	\$9.08	No	Minimum margin constraint	Hold price (margin floor)	Low Risk
MN-12	\$19.90	\$22.34	\$2.44	\$2.34	No	Minimum margin constraint	Hold price (margin floor)	Low Risk
MN-13	\$27.90	\$24.20	-\$3.70	\$2.20	Yes	Competitor benchmark	Increase price	Low Risk
MN-14	\$28.90	\$31.18	\$2.28	\$1.18	No	Minimum margin constraint	Hold price (margin floor)	High Risk
MN-15	\$21.90	\$24.05	\$2.15	\$4.05	No	Minimum margin constraint	Hold price (margin floor)	High Risk
MN-16	\$19.90	\$21.73	\$1.83	\$1.73	No	Minimum margin constraint	Hold price (margin floor)	Low Risk
MN-17	\$29.90	\$34.98	\$5.08	\$4.98	No	Minimum margin constraint	Hold price (margin floor)	Low Risk
MN-18	\$28.90	\$34.68	\$5.78	\$4.68	No	Minimum margin constraint	Hold price (margin floor)	Medium Risk
MN-19	\$36.90	\$41.18	\$4.28	\$1.18	No	Minimum margin constraint	Hold price (margin floor)	Medium Risk
MN-20	\$13.90	\$13.78	-\$0.12	\$1.78	No	Minimum margin constraint	Hold price (margin floor)	Medium Risk
MN-21	\$21.90	\$24.25	\$2.35	\$4.25	No	Minimum margin constraint	Hold price (margin floor)	Medium Risk
MN-22	\$20.90	\$23.89	\$2.99	\$3.89	No	Minimum margin constraint	Hold price (margin floor)	Low Risk
MN-23	\$9.95	\$13.09	\$3.05	\$3.09	No	Minimum margin constraint	Hold price (margin floor)	Medium Risk
MN-24	\$19.90	\$19.78	-\$0.12	\$1.9.53	Yes	Competitor benchmark	Decrease price	Low Risk
MN-25	\$34.90	\$39.05	\$4.11	\$9.05	No	Minimum margin constraint	Hold price (margin floor)	High Risk
MN-26	\$29.90	\$33.56	\$3.66	\$3.56	No	Minimum margin constraint	Hold price (margin floor)	High Risk
Grand Total		626.18	€1.18	58.18	No	All minimum required constraints met	Hold price (margin floor)	Medium Risk

Operational Translation

To aid execution, an Executive Pricing Overview Dashboard was created, which includes:

- Pricing headroom distribution.
- Main factors in pricing decisions.
- SKU-level action recommendations (Increase / Hold).

I think this lets teams move from analysis to action quickly.

➤ Links to all working files used in the assignment

Link for all working file :

https://docs.google.com/spreadsheets/d/1_TLbPxAm68Boy5aYO7WJVWqkiksumsnO/edit?usp=sharing&ouid=104624297016853828366&rtpof=true&sd=true

It contains

- Pricing model
- Pricing action view
- Dashboard
- Original datasets

Link for the Final Price recommendation PDF

<https://drive.google.com/file/d/1-2ISjfr8CizzVGS7eUfz4Ne77HUVr1N/view?usp=sharing>

➤ Conclusion

This analysis shows that a careful, data-based pricing strategy can create clarity and consistency in pricing decisions throughout the catalog. By basing recommendations on costs, market comparisons, demand patterns, and risk signals, the framework prevents reactive pricing and safeguards profitability. The results emphasize that pricing opportunities are selective and should be used with care instead of uniformly. Overall, this approach offers a practical way to make more informed and confident pricing decisions.