



Sales Analysis Presentation

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Project Goal

You have been provided with a generic, simulated dataset “Sales Case Study.csv”, which indicates the daily trading information for a large retail store, aggregated for the day. The data is only for one of the products sold at this store.



Objectives



1.

Calculate the daily sales price per unit

2.

Calculate the average unit sales price of this product

3

Calculate the daily percentage of gross profit.

4

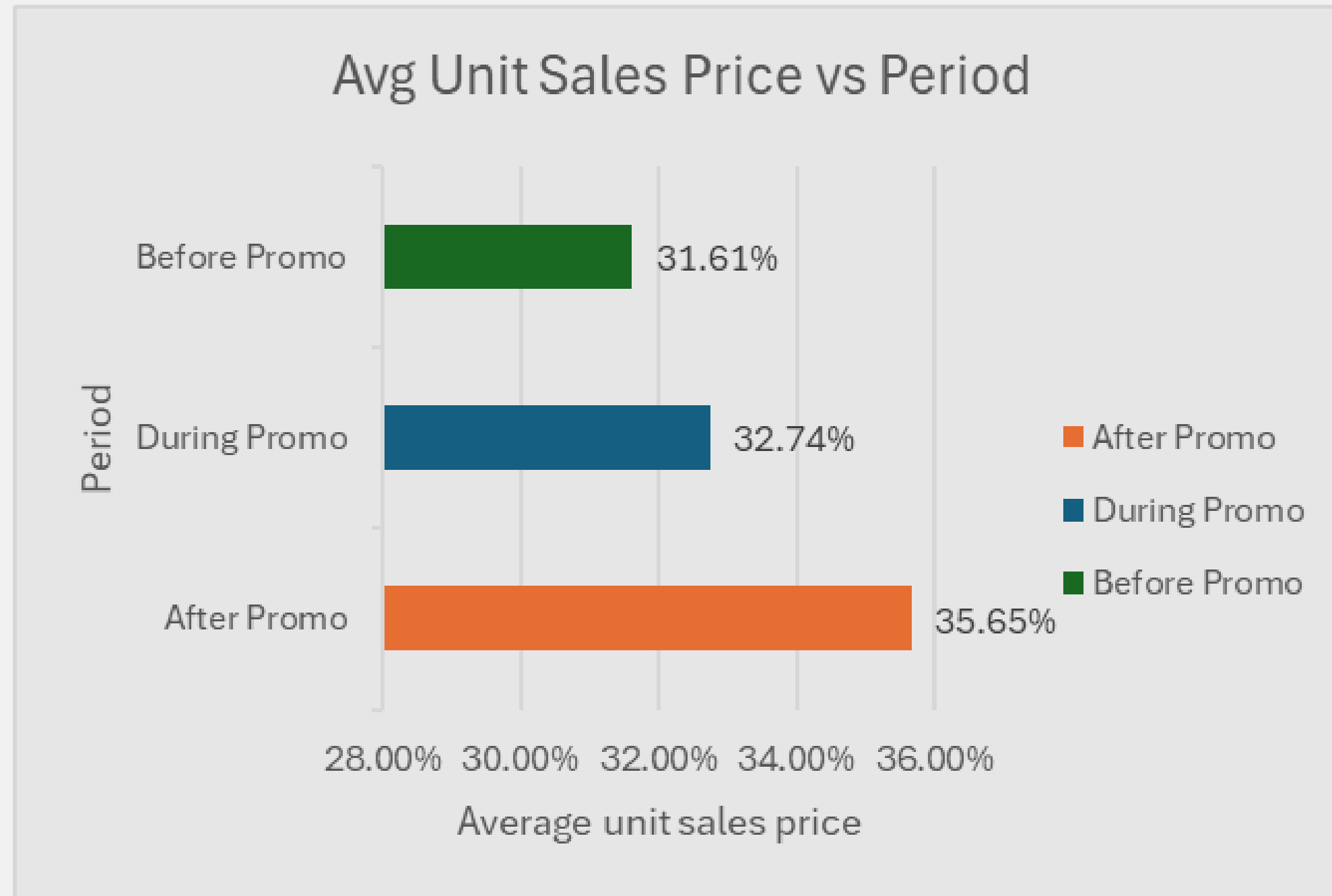
Calculate the the daily percentage gross profit per unit.

5.

Pick any 3 periods during which this product was on promotion/special



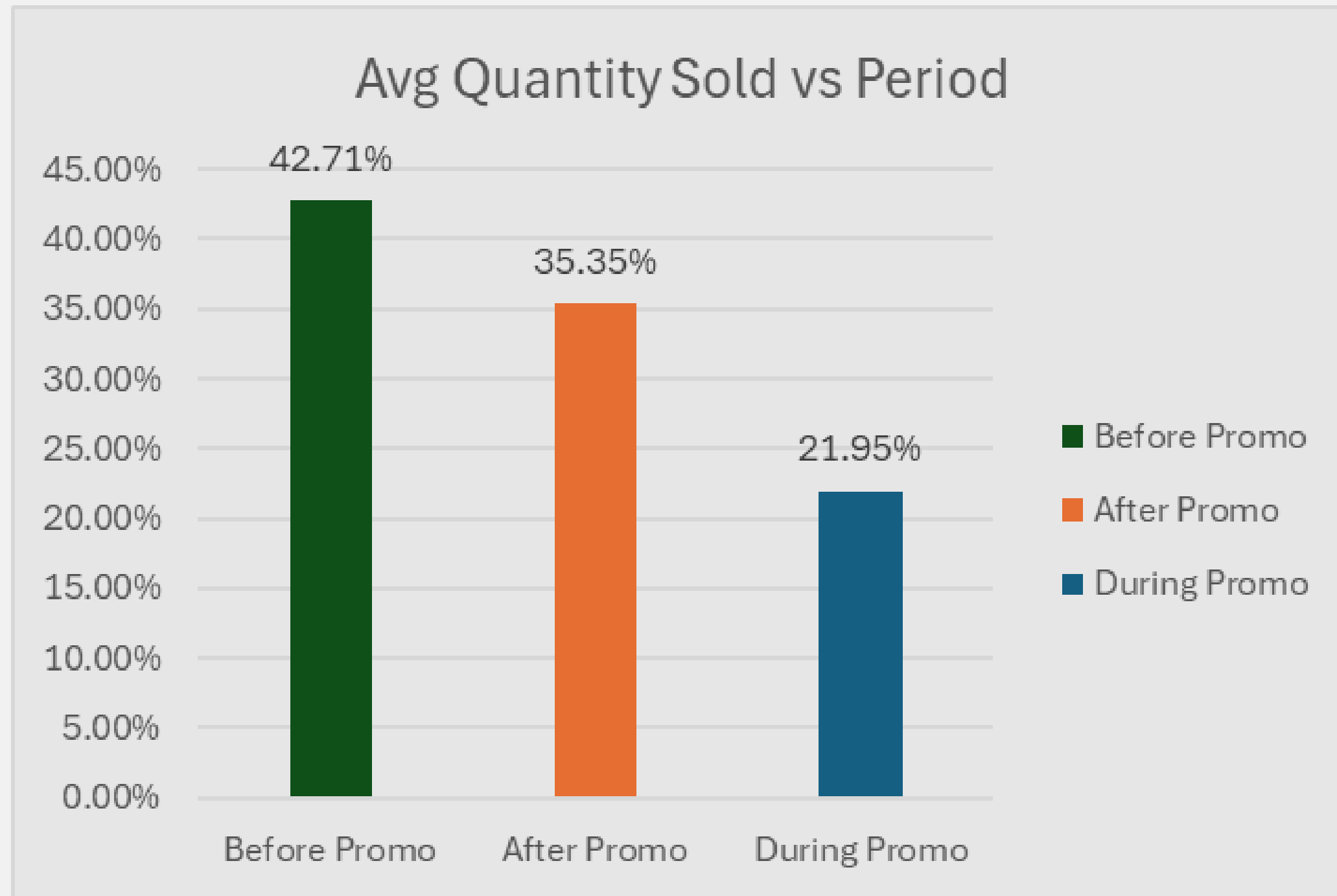
Avg Unit Sales Price vs Period



Insight:

- Shows how pricing changed across promotional phases.
- There was more sales after the promotion which contributed to 35.65%, and the sales before the promotion was 31.61%.

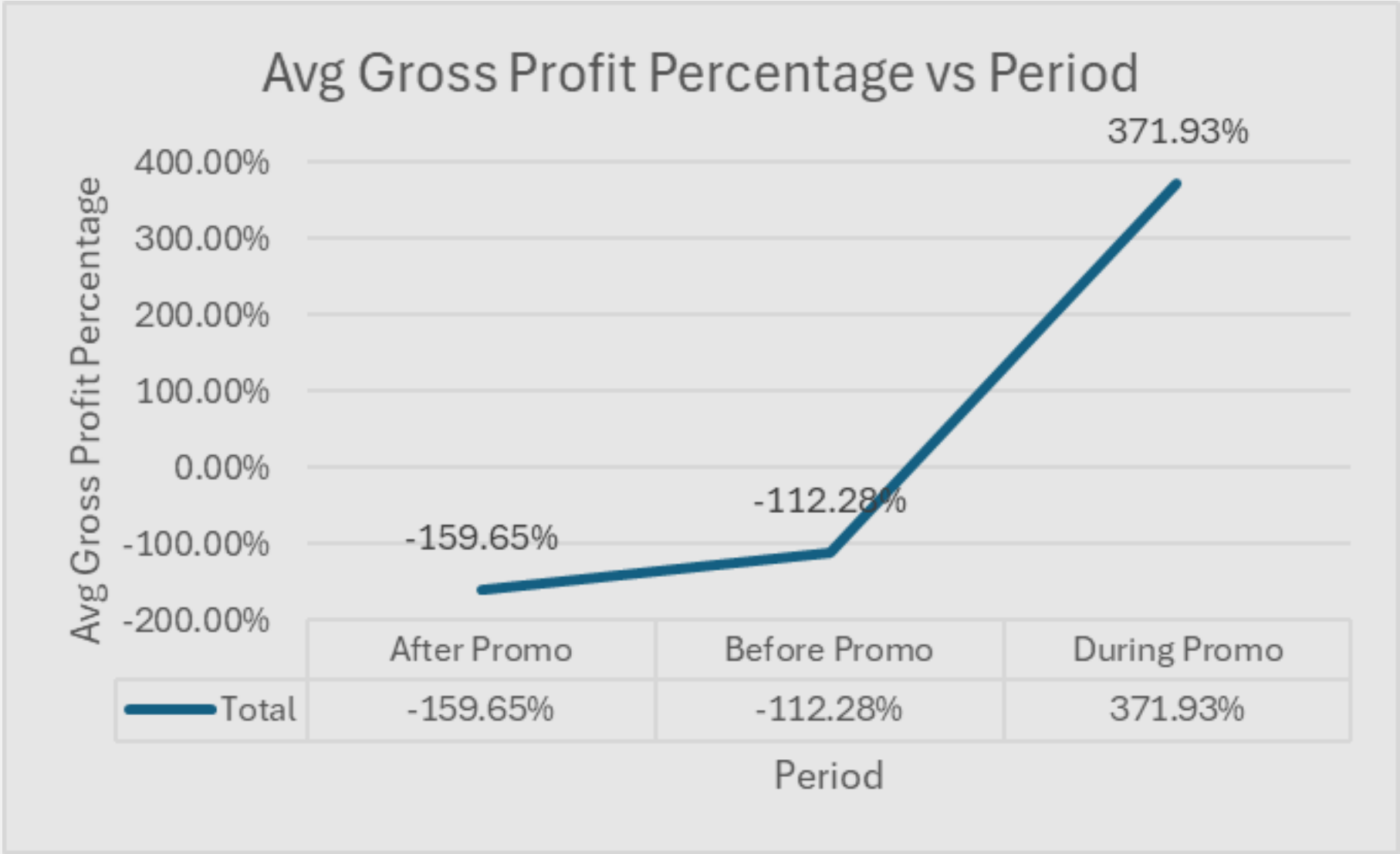
Avg Quantity Sold vs Period



Insight:

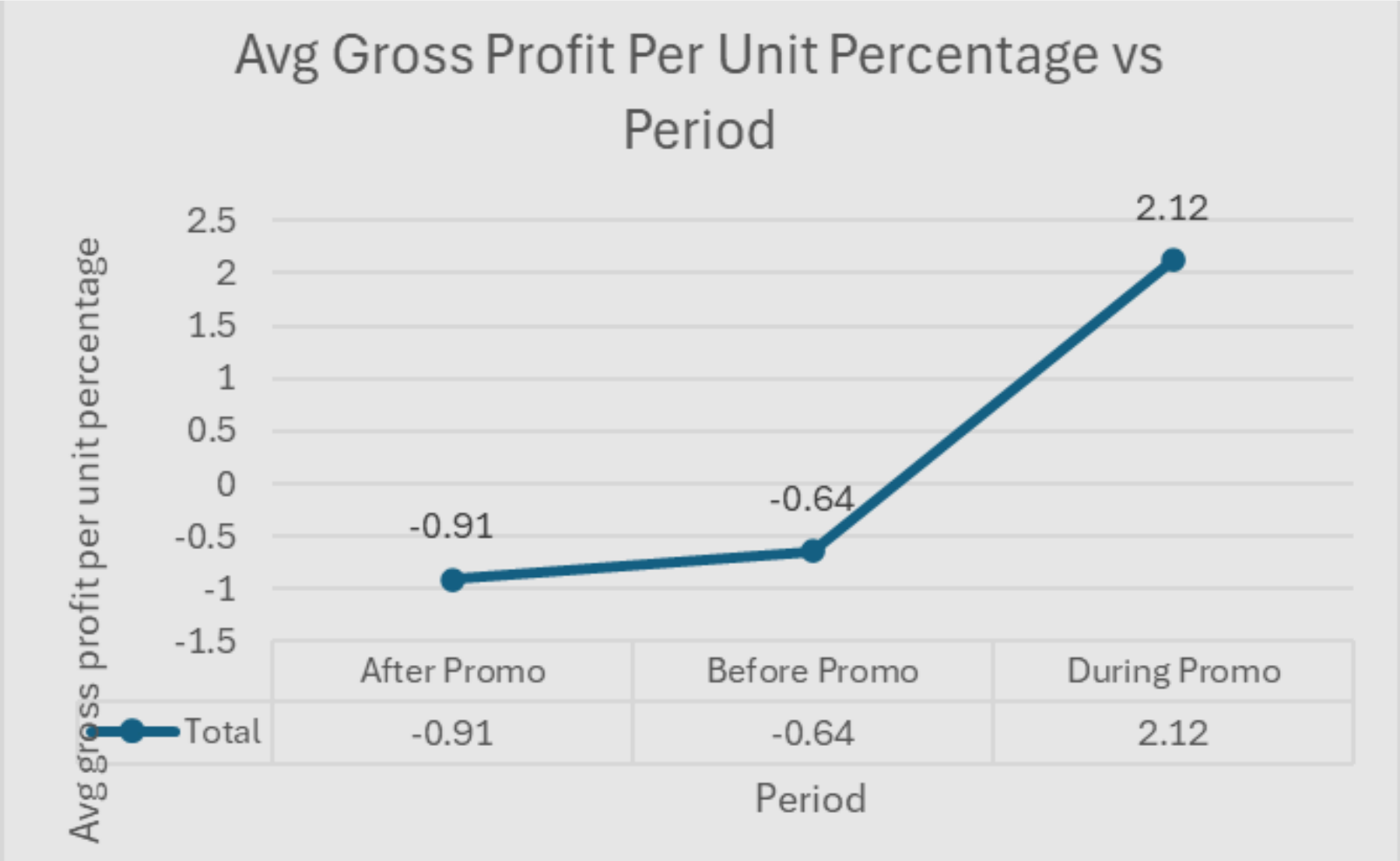
- Highlights how demand responded to pricing changes
- More quantity sold before the promo with 42.71%, and the quantity sold during the promo was the lowest with 21.95%.

Gross Profit Percentage and Gross Profit Per Unit Percentage



Insight:

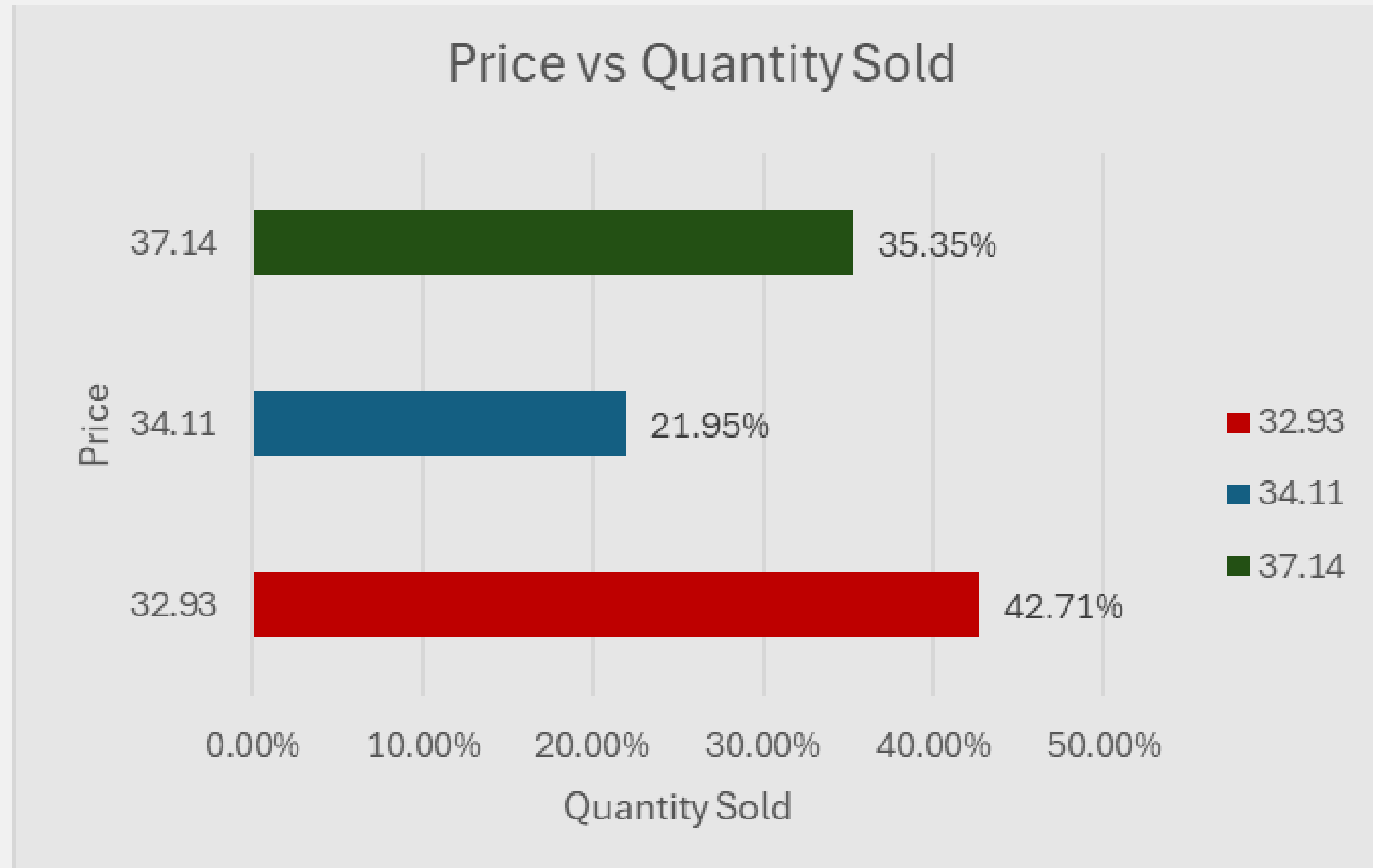
- Tracks profitability trends across time.
- The profit surge during the promo with 371.93% compare to Before and After the promo with negative -112.28% and -159.65%



Insight:

- Tracks profitability trends across time.
- There was profit increase per unit during the promo with 2.12% while profit per unit was negative before and After the promo with -0.91% and -0.64% respectively.

Price vs Quantity Sold



Insight:

- Visually shows price elasticity — steeper drop in quantity as price rises.



Price Elasticity of Demand (PED)



PED = % Change in Quantity / % Change in Price

Period	Avg_Unit_Sales_P rice	Avg_Quantit y_Sold	Avg_Gross_P rofit_Percent age	Avg_Gross_P rofit_Per_Uni t_Percentage	Before Promo - During Promo		During - After Promo	
Before Promo	3.293	60.685	-64	-64	Quantity Change	-29.501	Price Change	303
						-486.133.311		88.830.255
During Promo	3.411	31.184	212	212	Price Change	118	Quantity Change	190.387
						35.833.586		610.527.835
After Promo	3.714	502.227	-91	-91	PED:	-1.356.641.521	PED:	6.872.971.764

Insight:

- Before and During Promo: is -1.35 is less than 1 (<1) which is inelastic customers don't react much to price.
- During and After promo: is 6.87 is greater than 1 (>1) which is Elastic [customers respond strongly to price changes]



Key Insights



- **High Price Elasticity Observed:** The data indicates that demand was highly responsive to price changes — even minor price increases resulted in significant declines in quantity sold, particularly following the promotional period.
- **Post-Promotion Profitability Decline:** Despite higher post-promotion pricing, overall profitability weakened. Both gross profit margin and per-unit profit showed a noticeable decline after the campaign ended.
- **Pre-Promotion Peak Performance:** The strongest performance occurred before the promotion phase, where lower pricing levels corresponded with increased sales volume and healthier profit margins.

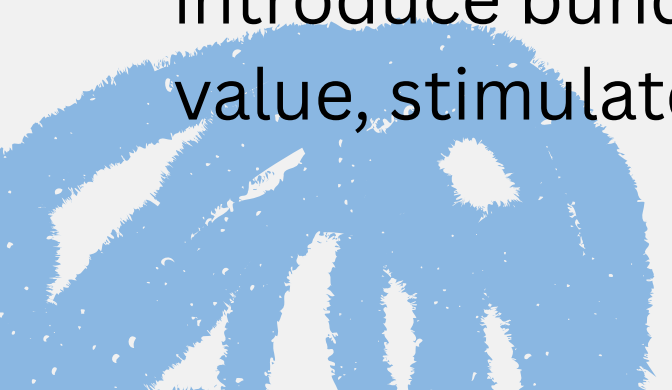




Recommendations



- **Maintain lower price points or frequent promotions:** Maintain price points near the optimal level, where sales performance and profitability are most balanced.
- **Monitor Price Elasticity Thresholds:** Use historical sales and pricing data to pinpoint the price ceiling at which demand begins to decline sharply. Implement a monitoring system to track elasticity shifts over time, ensuring that price adjustments remain within profitable demand limits.
- **Segment Customers by Price Sensitivity:** Conduct customer segmentation analysis to determine which groups are most responsive to price fluctuations. Design differentiated pricing strategies, loyalty rewards, or targeted promotions for these segments to maximise engagement and revenue efficiency.
- **Enhance Perceived Value through Bundling:** If price reductions are not financially viable, introduce bundled offers or value-pack promotions. This approach maintains perceived customer value, stimulates higher purchase volumes, and supports brand loyalty without direct price cuts.



The background is a light gray color, decorated with various hand-drawn blue doodles. These include several loops and swirls at the top, a series of vertical lines on the right side, a wavy line at the bottom center, and several checkmarks at the bottom right. The central text is in a bold, black, sans-serif font with a white drop shadow.

**Thank you
very much!**