Executive Summary

Purpose of Analysis:

1. How has company-wide revenue from the sale hat section responded to the August pricing change from a BOGO model to flat-priced sale sections?
2. If sale hat revenue was impacted, was the observed impact due to the pricing model being changed, seasonality, or other factors?
3. If revenue has decreased, what opportunities exist to increase it?

Summary of Findings:

1. Weekly sale hat revenue fell **40%** 8 weeks following the pricing change. This decline was not found to be fueled by seasonality, and each of our top 5 full-price hat categories saw weekly revenue grow by **9%** or more during the same time period that sale hats decreased.
2. The decline in sale hat revenue has been driven by a **53%** decrease in total monthly transactions that contain 2+ sale hats. Our findings indicate customers are making far fewer multi-hat purchases due to the removal of BOGO incentive pricing.
3. If the current flat-priced sale hat sections are kept, we can expect the segment's annual revenue to be ~**$300k less YoY.**

Recommendation:

- **5 Stores Should Retain Flat-Priced Sections:** Stores C, F, K, AB, and S each saw weekly revenue increase by **60%** or more post-change. These stores should keep the flat-priced sections with performance monitoring in place if they begin to decline.

- **Action for All Other Stores:** To reverse declining sales, it is advised to reinstate a BOGO pricing model in the sale hat section and track performance over a 90-day period. This recommendation is projected to improve the segment's revenue by increasing multi-hat purchases, which have been shown to drive sales. A 90-day tracking window will confirm whether performance gains justify adopting the model as the long-term pricing strategy.

**Data on all stores Excl. Store C*

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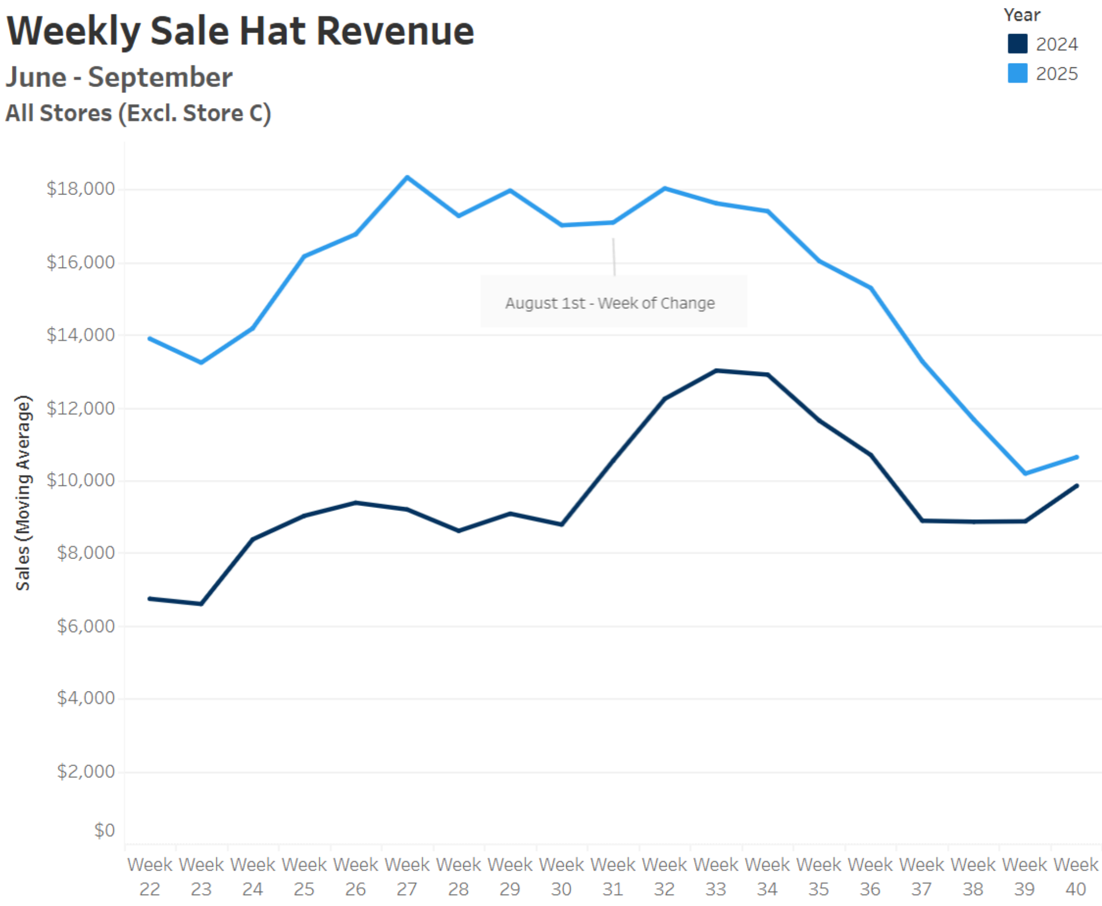
Additional Resources

- Charts used in this report and additional visualizations can be found here
- Details on the data, methods, and SQL queries used can be found here

Sale Hat Revenue Trend YoY

To reveal the short-term effects of the pricing change, we plotted weekly revenue of the sale hat section in 2025 and 2024 eight weeks before and after August 1st (the week of the change). A two-week moving average was used to smooth volatility and identify the true direction of the trend.



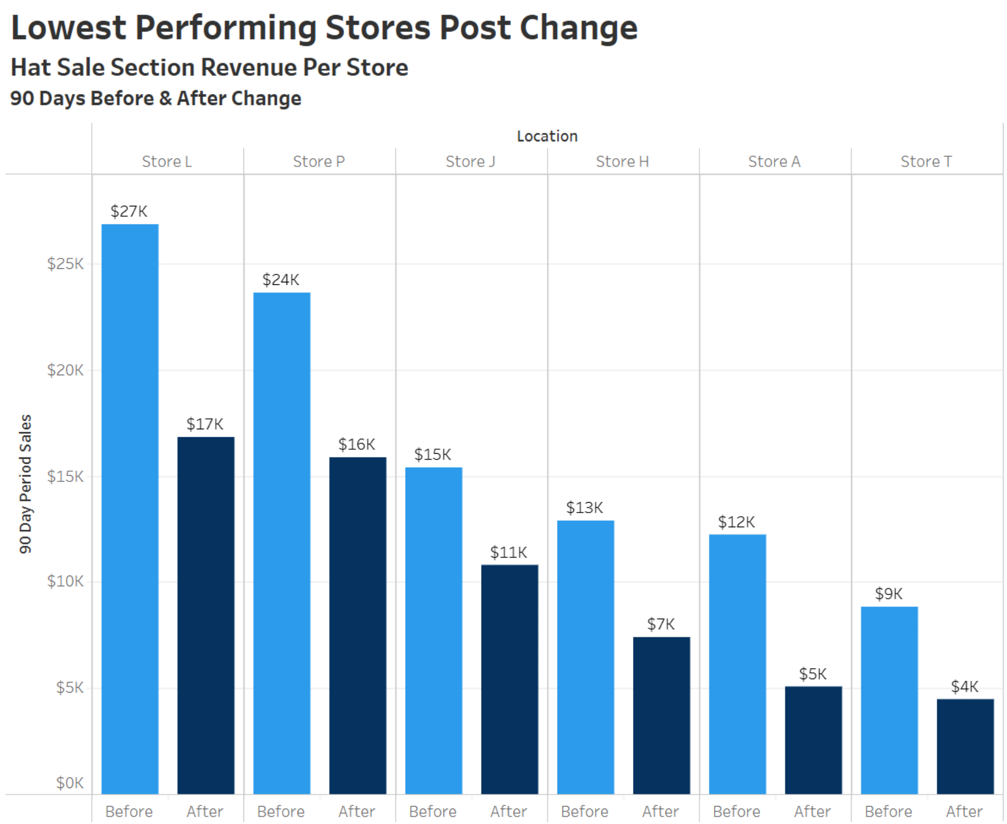
Insights:

- In 2024, weekly sale hat revenue peaked in August, then returned to previous baseline performance. In contrast, 2025 experienced a sustained revenue decline beginning one week after the pricing change that continued for seven consecutive weeks.
- Average weekly sale hat revenue decreased from **$17k** on the week of the pricing change (August 1st) to **$10.2k** eight weeks following the change. **(40% decrease)**.
- When analyzing at the monthly level, we saw this downward trend continue, with monthly sale hat revenue falling **39%** from August to September, despite total company revenue increasing **4%** during the same time period.

Sale Hat Revenue Per Store

Although a company-wide decrease in sale hat revenue was observed, we needed to evaluate revenue at the store level to see if this company-wide decrease was caused by a small segment of stores, or if we experienced a more widespread issue across locations.

The bar plot below shows sale hat revenue totals by store 90 days before and after the pricing change. May through July (90 days before) and August through October (90 days after).



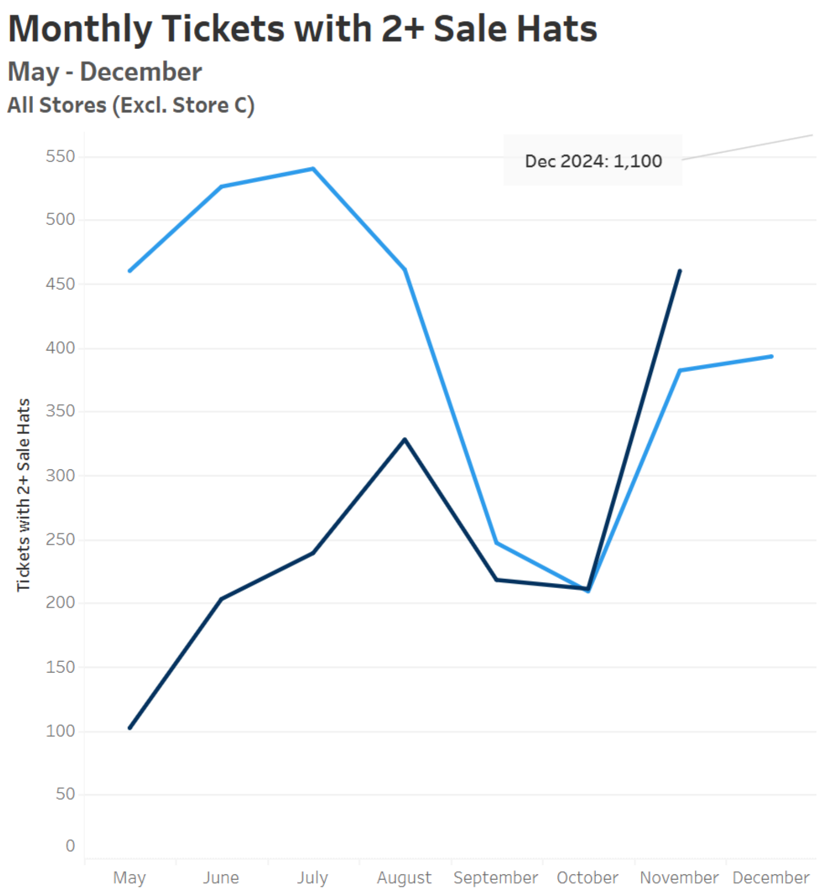
Insights:

- 13 stores saw total sale hat revenue decline by **10%** or more in the 90 days post-change compared to the 90 days pre-change, nine of which decreased by over **30%**.
- 5 stores responded positively to the pricing change. Stores C, F, K, AB, and S each saw a **60%** increase in total sale hat revenue in the 90-day post-change period.
- To further investigate this trend, we also compared the average weekly revenue of each store in the 90 days before and after the pricing change. Similarly, 9 stores average weekly revenue declined by **30%** or more post-change, indicating the company-wide decrease in sale hat revenue was experienced across markets rather than isolated to a small number of locations.

Monthly Tickets Trend Comparison

Considering the new flat-priced sale sections no longer offer an incentive to purchase multiple items like the previous BOGO model, we analyzed how this change affected the number of customers purchasing two or more sale hats.

The chart below shows the number of monthly transactions with two or more sale hats in 2025 and 2024.



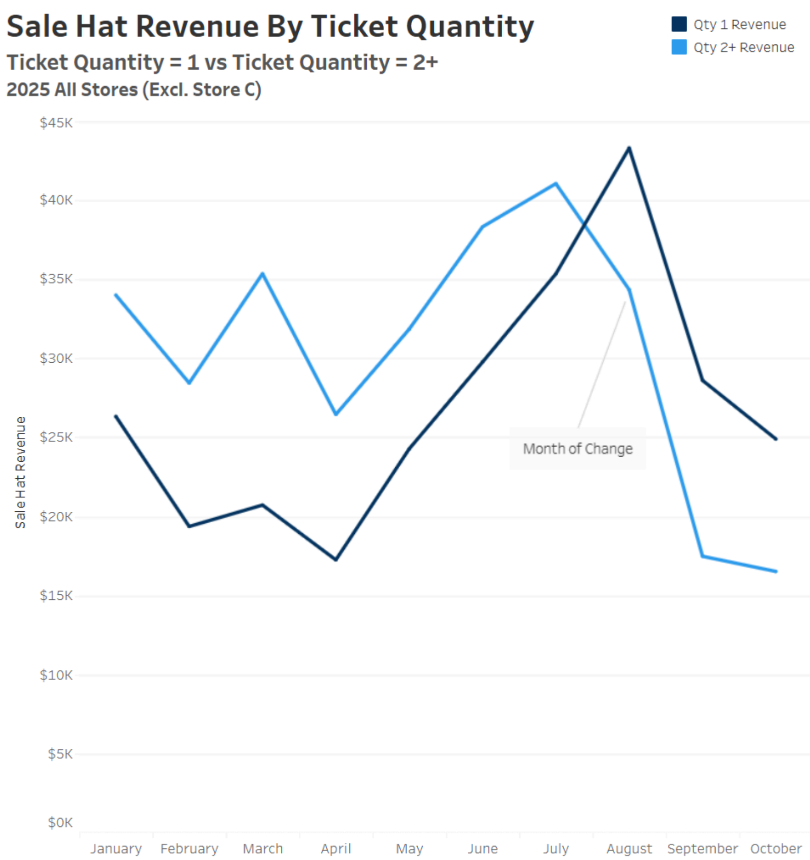
Insights:

- The number of transactions with 2+ sale hats dropped dramatically in the months following the pricing change **(53% decrease from Jun. to Sep. 2025)**. This shift in trend was not experienced in 2024.
- The decrease in the number of multi-hat purchases can be behaviorally attributed to the pricing change, with customers no longer being incentivized or rewarded for purchasing more than one hat.

Impact of Multi-Hat Purchases

After observing a 50%+ decrease in the number of monthly transactions with two or more sale hats, we needed to go deeper to understand the impact on revenue.

The chart below compares monthly sale hat revenue from transactions containing exactly one sale hat to revenue from transactions containing two or more sale hats.



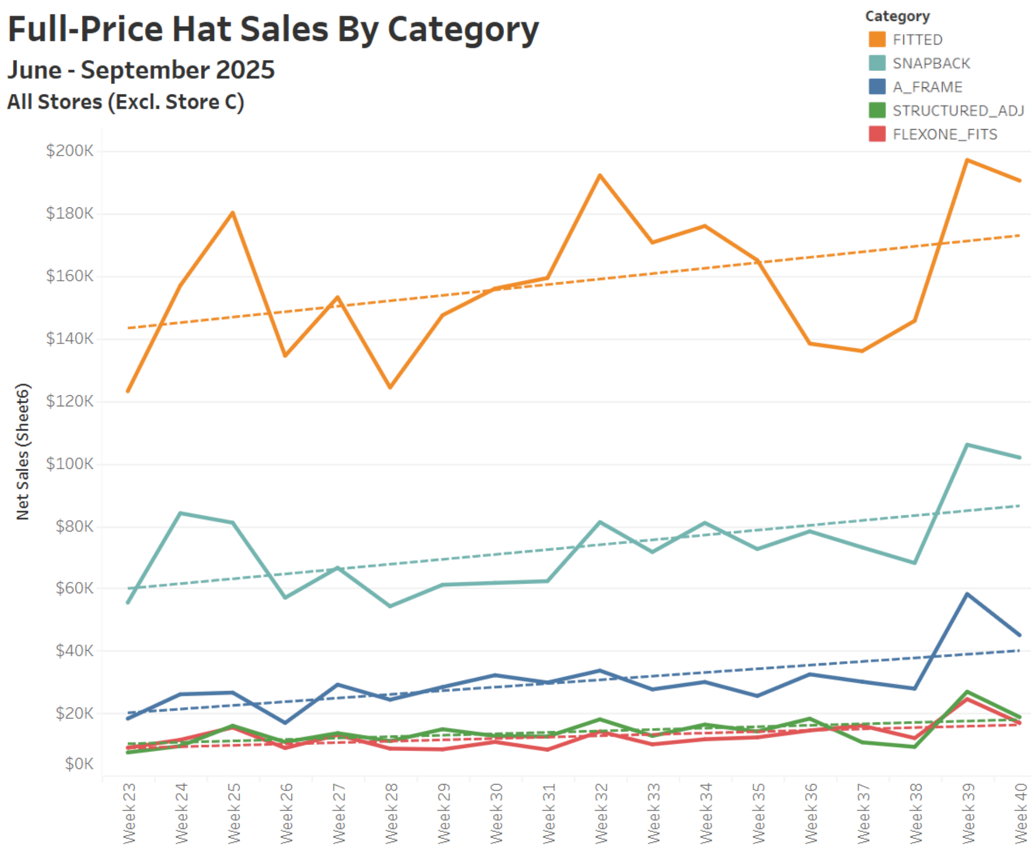
Insights:

- Prior to the pricing change, multi-hat transactions consistently drove **~60%** of total sale hat section revenue.
- After the change to flat pricing occurred, revenue from multi-hat transactions fell **55%** (June vs September), and only accounted for **~40%** of the segment's revenue.
- These findings suggest that removing the BOGO incentive reduced the frequency of multi-hat purchases, leading to fewer high-value transactions and a decline in the segment's overall revenue.

Full Price Hats Trend Comparison

We found the decrease in sale hat revenue post pricing change was being experienced at numerous locations rather than concentrated at a select few, but was this decrease specific to sale hats, or were other product segments experiencing a similar decline?

The chart below shows the total sales per week of our top 5 full-price hat categories in 2025 during the same time period that sale hats experienced a significant decrease.



After plotting revenue per category, we evaluated each category's average weekly revenue for the six weeks before and after the sale hat pricing change. This allowed for the most accurate analysis under normal conditions, as the eighth week following the change (start of October) saw a spike in revenue due to the MLB playoffs.

Insights:

- Each category saw its average weekly revenue increase between **9% and 17%** in the six week period following the change, indicating a seasonal shift may not be to blame for the decrease in sale hat revenue.

Annual Impact of The Pricing Change

So far, we have discovered a steep decrease in sale hat revenue that occurred in the weeks immediately following the pricing change and found that comparable segments didn't experience a decrease of the same magnitude.

To determine if the sale hat revenue decrease was statistically associated with the pricing change, we used regression modeling to reveal the true difference in sale hat revenue after the change.

Our regression model used daily sale hat revenue totals from 2024 through 2025 and controlled for seasonality between months. It produced the following results:

	Coefficients	*Standard Error*	*t Stat*	*P-value*
After Period	**-1074.103516**	420.546207	-2.554067776	**0.010853784**

Insights:

- Daily sales post pricing change are on average **$1074 lower per day** while controlling for monthly seasonality.
- A p-value of < 0.05 indicates this decrease is very unlikely to be due to chance, suggesting the change to flat-priced sections coincided with a meaningful decline in sale hat revenue.
- These results confirm there is statistical evidence of a decline in sale hat section revenue beginning when the flat-priced sections were implemented.

To estimate the annual impact the change in pricing model has on revenue, we used sale section revenue data from January 2024 through July 2025 to create a seasonality index that expresses each month's sale hat revenue as a ratio to the yearly average, showing how strongly that month over or under-performed compared to the average month.

We used this index with our regression results to emulate what annual sales would be per month under an entire year of using flat-priced sale hat sections.

Projected Monthly Sale Hat Revenue Using Flat-Priced Sections:

MonthNum	AvgSales	Avg Month	Month Index	Monthly Impact	(Avg sales * index) + monthly impact
1	$ 88,342.33	$ 76,116.18	1.16062488	$ (33,294.00)	$ 55,048.33
2	$ 84,832.29		1.11451063	$ (30,072.00)	$ 54,760.29
3	$ 87,354.57		1.14764787	$ (33,294.00)	$ 54,060.57
4	$ 59,522.90		0.78200064	$ (32,220.00)	$ 27,302.90
5	$ 43,381.23		0.56993442	$ (33,294.00)	$ 10,087.23
6	$ 61,468.07		0.80755591	$ (32,220.00)	$ 29,248.07
7	$ 64,770.17		0.85093828	$ (33,294.00)	$ 31,476.17
8	$ 82,573.40		1.08483376	$ (33,294.00)	$ 49,279.40
9	$ 46,918.24		0.61640299	$ (32,220.00)	$ 14,698.24
10	$ 42,176.86		0.55411163	$ (33,294.00)	$ 8,882.86
11	$ 69,804.66		0.91708046	$ (32,220.00)	$ 37,584.66
12	$182,249.42		2.39435852	$ (33,294.00)	$ 148,955.42

2024 Segment Revenue	$ 938,416.22
2025 Segment Revenue	$ 830,628.68
2026 Projection	$ 521,384.14
2026 Projection - 2025	$ (309,244.54)

Insights:

- Using the statistical models results and historical data to adjust for seasonality, we're able to estimate **2026 total sale hat revenue to be $520k** using flat-priced sections. **This would be a decrease of over $300k from 2025, and a $400k+ decrease from 2024.**

Summary of Conclusions & Recommendation

Summary of Findings:

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