AWG

Team A

Program Impact on New Item Adoption & Early Sales (AIM vs One Source vs Both vs None)

Goal :Evaluate how AIM, One Source, and Both influence new item adoption and early sales performance

Key question: Do program stores outperform “None” stores in the early months after launch?

Data + Method Overview

What we analyzed

- Granularity: Store × Item × Month
- Time window: M1–M6 sales (first 6 months since launch)
- Buckets: aim / one source / both / none

What we did (two lenses)

- Pivot table (descriptive): Average sales by Program × Brand × Month
- Regression (controlled): Compare programs vs None holding the item constant

Pivot Table

What this pivot is doing

- For each Brand, we computed Average sales_m1…sales_m6 by program participation
- We used average, not total, because None has way more stores

How to read it

- Row = program bucket
- Columns = brands + months
- Values = avg sales per store-item-month

program_participation	Average of sales_m1	Average of sales_m2	Average of sales_m3	Average of sales_m4	Average of sales_m5	Average of sales_m6
aim	13.52205464	12.11681004	15.54970463	10.88980247	10.30606609	10.26211556
both	15.27637796	13.94354261	21.96300681	14.219618	12.67789839	13.32136157
none	15.06470533	14.59129094	17.30999275	15.71378523	14.55343428	14.79227117
one source	13.80754142	13.77491782	15.43395251	13.12313209	12.01199906	11.92128396
Grand Total	**14.79170952**	**14.26143876**	**17.30361408**	**14.89106199**	**13.73964901**	**13.94374135**

Pivot Table Key Findings

Overall averages (across all brands) from pivot output

- Both: avg sales peaks at ~21.96 in M3 (highest across programs in M3)
- None: stays relatively strong ~15–17 range (e.g., 17.31 in M3)
- AIM: lower overall (e.g., ~10.26 in M6)
- One Source: also lower overall (e.g., ~11.92 in M6)

What this suggests

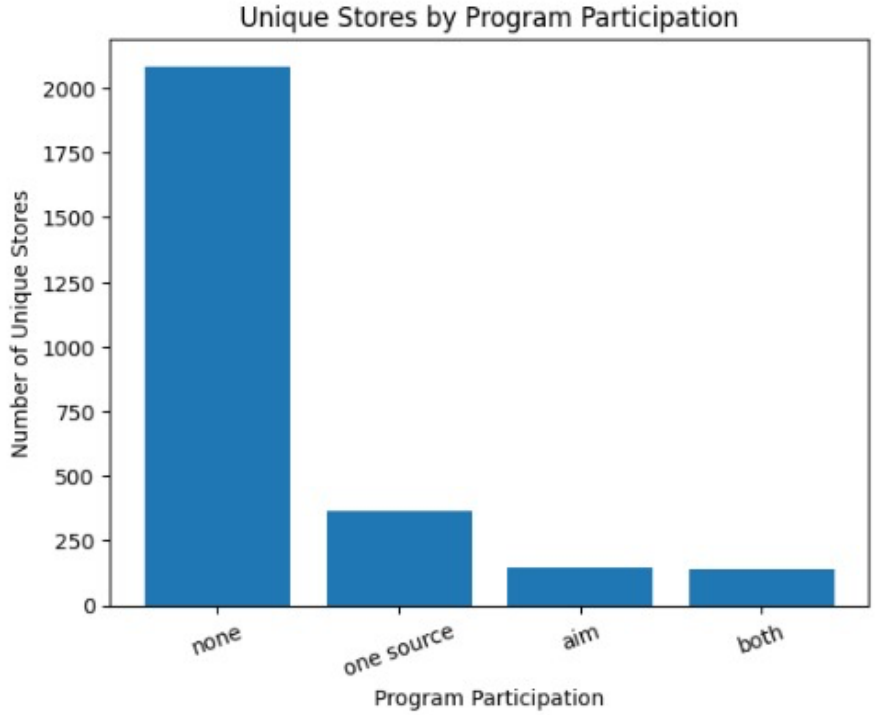
- “Both” shows the strongest early-month momentum (notably M3)
- None can still look strong descriptively → likely because None includes many strong/high-volume stores (mix effect)

Store Participation Size

Why we show this

- This is the main reason we avoid totals and lean on averages + controlled regression
- Store counts by bucket (from your dataset)
- None: 64,852
- One Source: 14,907
- Both: 7,932
- AIM: 5,417

	program_participation	n_unique_stores
0	none	2086
1	one source	364
2	aim	148
3	both	138



Independent Variable/Dependent Variable

Dependent Variable (DV)

- sales_m1, sales_m2, …, sales_m6 (monthly sales after launch)

Independent Variable (IV)

- program_participation (aim / one source / both / none)

Control Variable

- item_code (we control for product differences)
- Model (the exact idea)
- sales_mk ~ program_participation + item_code

Interpretation: program coefficients tell us the sales difference vs None for the same item

Regression

Why regression was needed (business explanation)

- Pivot is descriptive and can still reflect store mix.

Regression answers:
“For the same product, do AIM/One Source/Both stores sell more than None stores?”

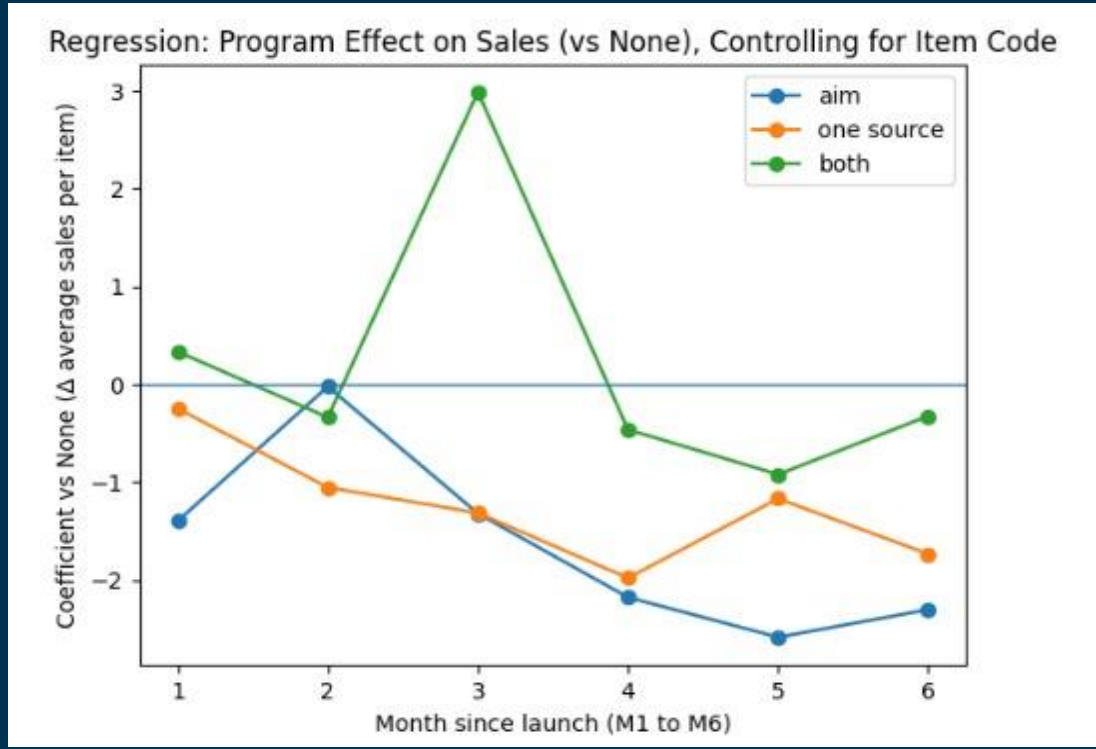
How to interpret coefficients

- Positive coefficient = program > none (better than none)
- Negative coefficient = program < none

Regression Results

Program effect vs None (holding item constant):

- Both: strongest month is M3: +2.99 (best lift vs None)
- Interpretation: same item, Both stores sell about ~4.9 more sales units/value
(depending on sales definition) than None in month 3.
- AIM: consistently negative M1: −1.40, M4: −2.18, M6: −2.30
- One Source: also negative most months M1: −0.25, M3: −1.32, M6: −1.74



What this means

- Controlling for product, Both shows the clearest positive lift (especially M3)
- AIM + One Source appear lower than None after controlling for item → could reflect program store profile or execution differences

Best Program by Month

Based on regression coefficients

- Best program most months = Both
- Biggest standout: Month 3 (Both has highest lift)

Business translation

If the goal is to maximize early sales performance for the same item, Both looks like the most effective program lever in this dataset.

Limitations

- Program membership treated as static

If stores join/leave programs during the year, the estimated program effect gets blurred.

- Many zeros in sales months

Lots of store-item-month rows have 0 → sales performance is partly an “adoption” issue, not only demand.

- Regression controls for item, but not store strength

We controlled product differences using item_code, but we didn’t control store size/traffic.

That’s one reason None can still look strong in descriptive averages.

- Brand-level pivot can hide item mix

Brand averages may mix strong/weak SKUs within a brand.

Final Answer to Business Problem

So what's the answer?

- Pivot (average view): Both looks strongest in key early months (ex: M3 ~21.96 avg) but None still looks high due to store base strength.

- Regression (controlled view): For the same item, Both shows the clearest positive lift (M3: +2.99) → strongest evidence of program impact.

Decision implication

- If AWG's goal is improving early sales success of new items, "Both" is the program to scale/replicate, and we should investigate what operational supports make it work.

Thank You!