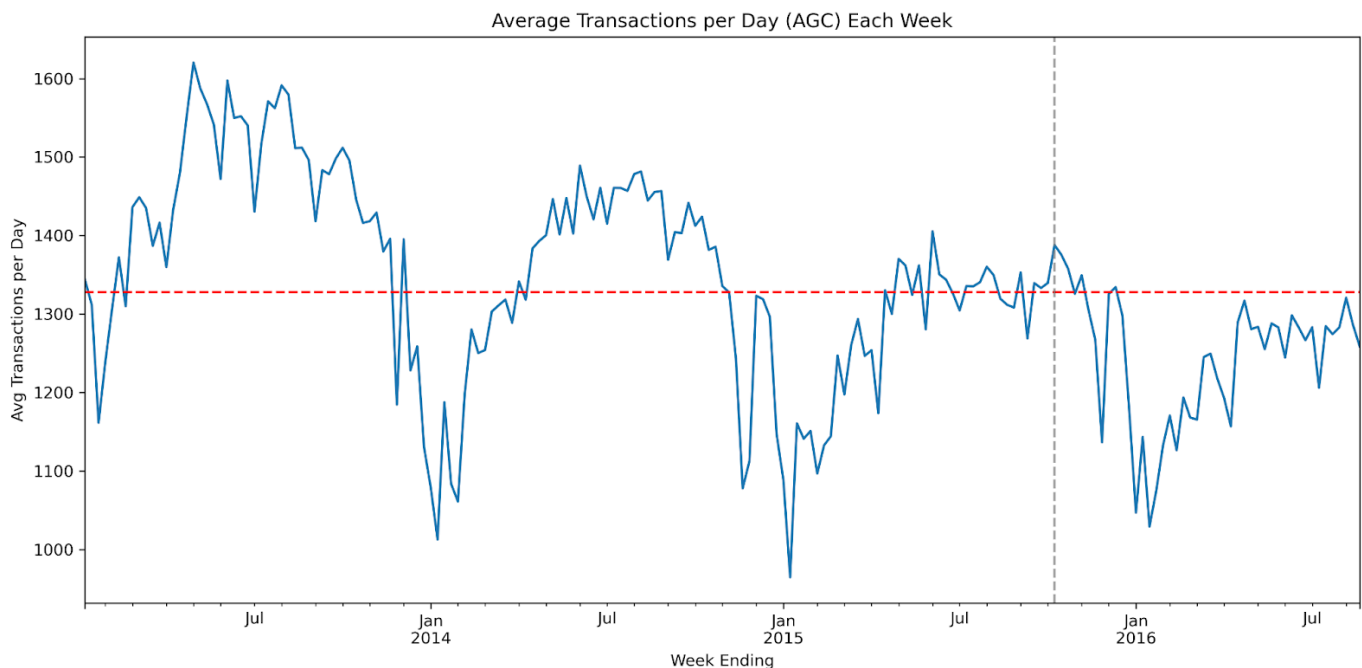
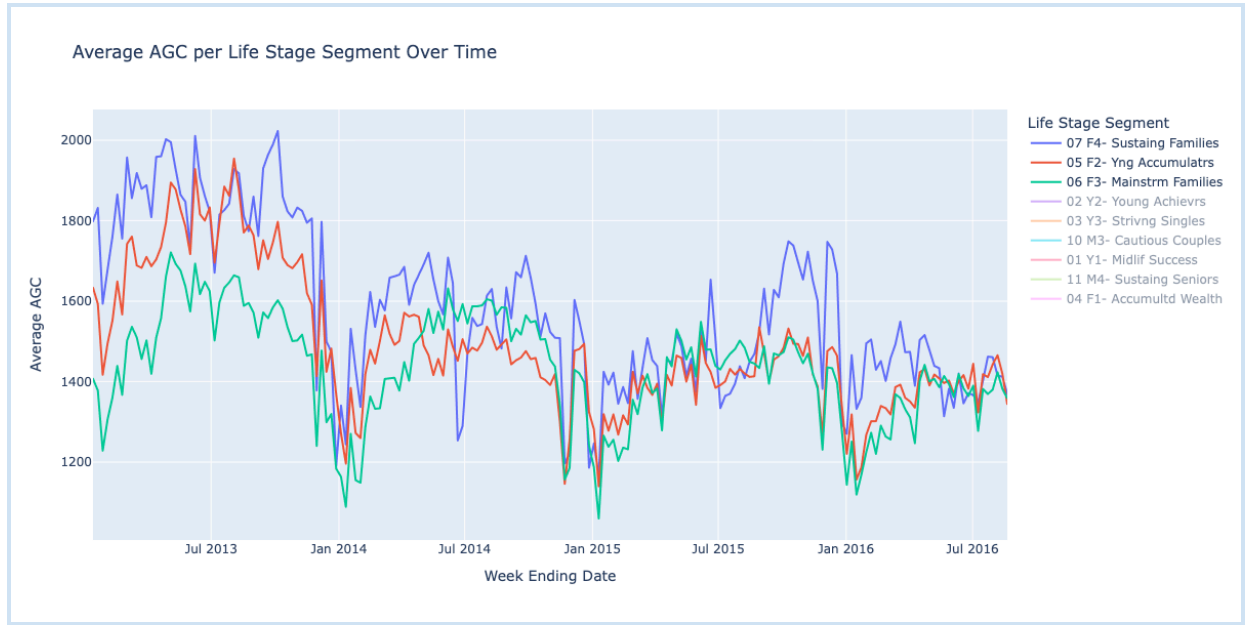
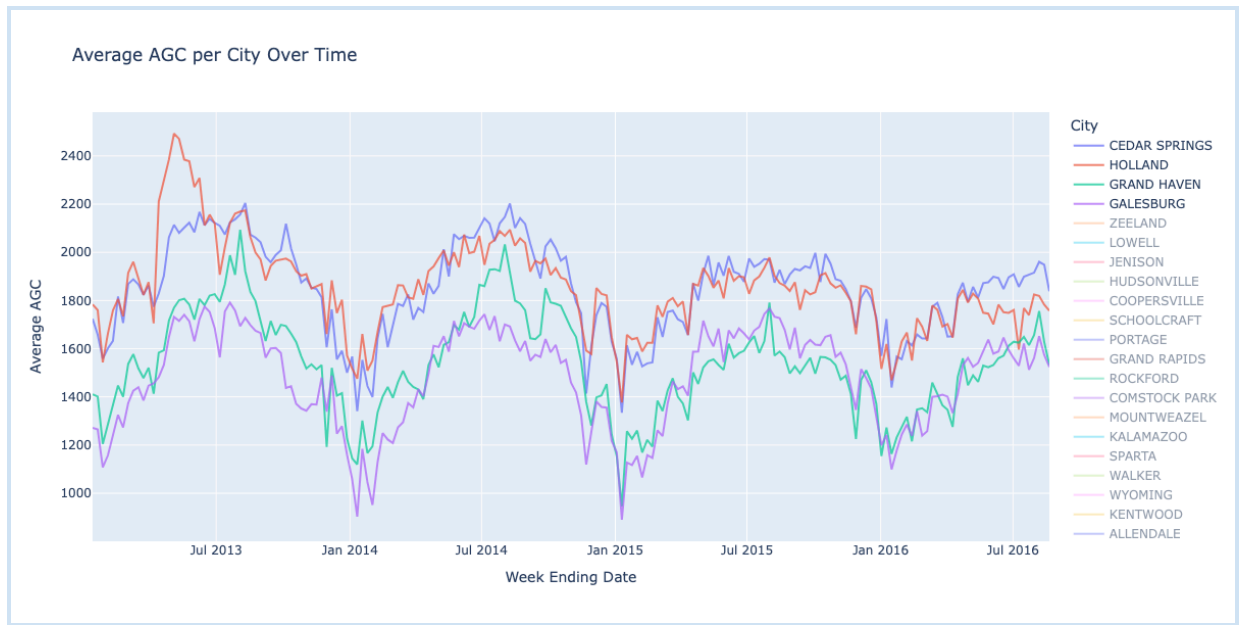


Here is a 10+ slide title horizontal/vertical story:

1. McDonald's in the Midwest has a customer attrition problem!
2. Did the promotion help solve this problem?
3. Let's look at the data and what it can tell us!
 - a. Quick rundown of datasets + features
 - b. Quality issues(missing large cities,missing data, duplicated columns)
4. Transaction (AGC) is closest representation of customer flow



5. The promotion was not that successful, but was also not entirely for naught
6. Transactions did not really increase for any city or population (except maybe sustaining families → poorer families)

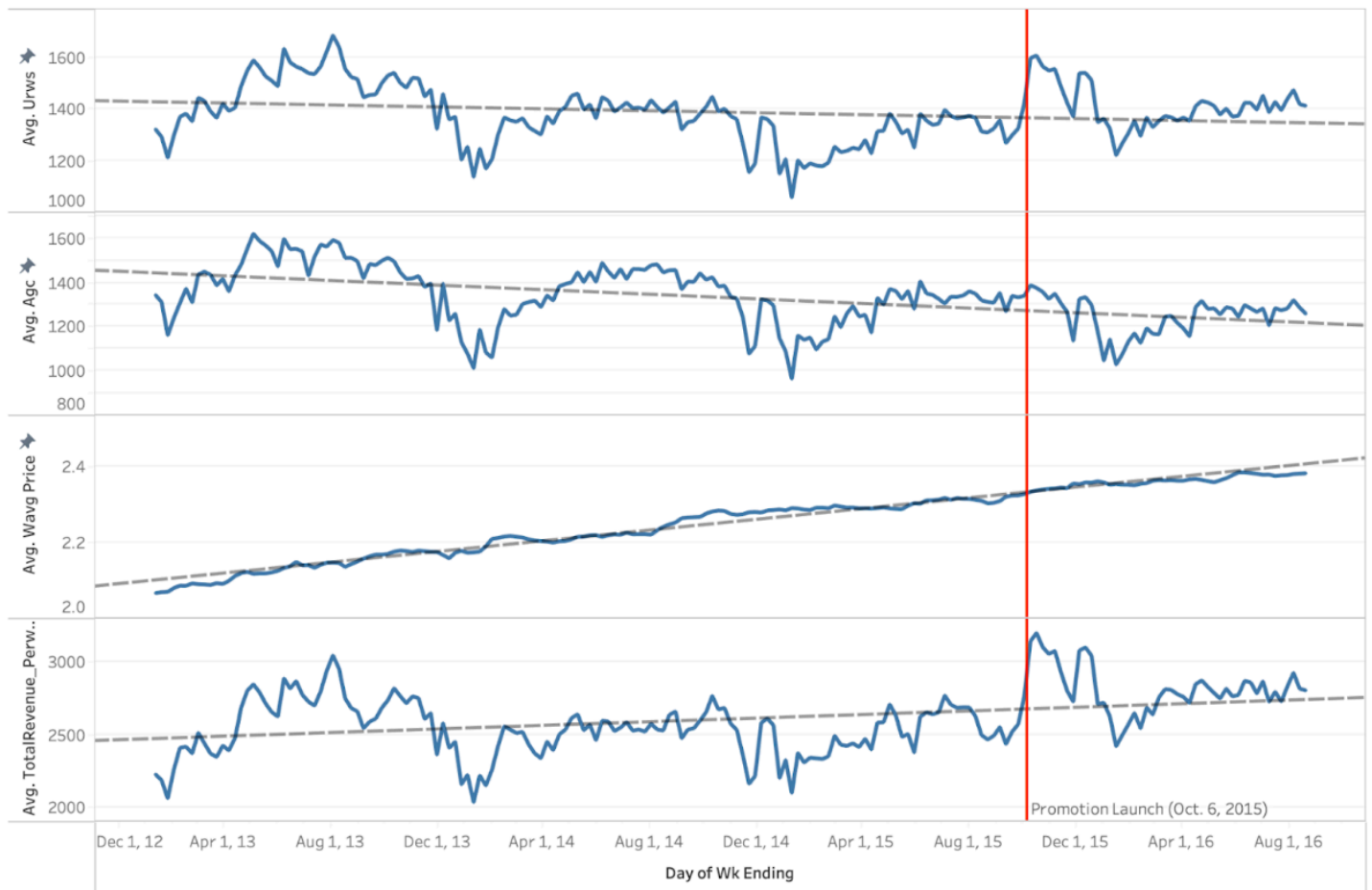


7. However, revenue and total units sold did increase! The increase may even be semi-permanent.

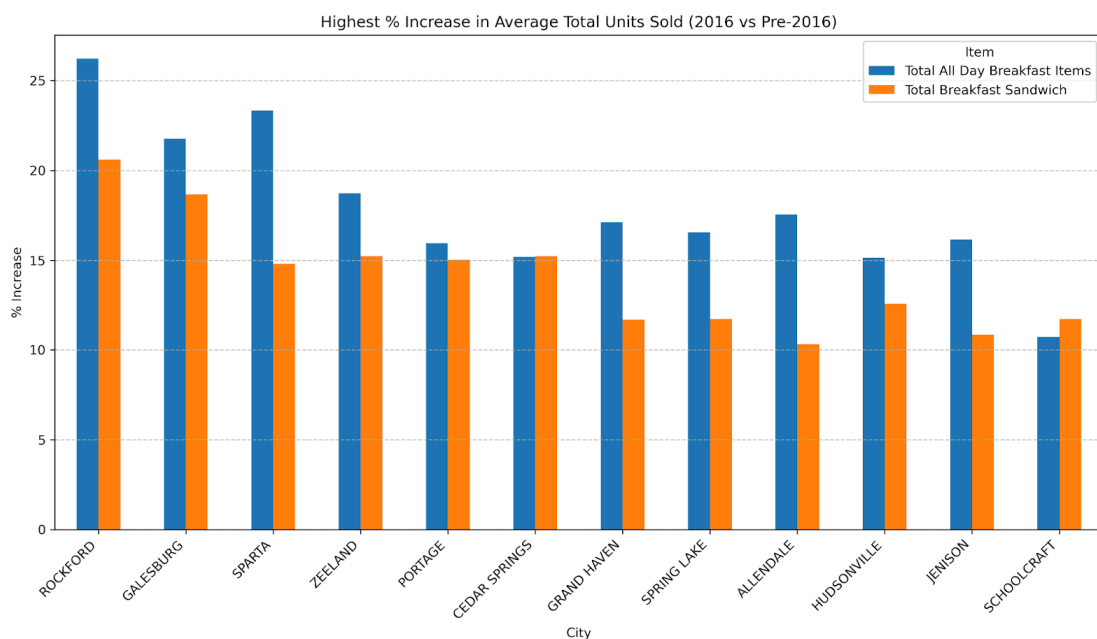
a. We can also prove it's not really eating into other items because the decline of other items occurs before breakfast promotion

8. Increasing gap with lunch/dinner items

Trends in average weekly transactions, units sold, average price, and total revenue from 2013 to 2016



- a. We can observe total units sold for breakfast items increasing its gap with dinner/lunch even before the launch of the promotion. The gap increases further after the promotion.



9. Our two pronged approach: geographical and seasonal promotions

a. Targeted marketing in certain cities where the promotion was more effective

b. (seasonally or keep with fewer items) because there is visible demand

Itemdesc	promotion	
	Before Promotion	After Promotion
Egg McMuffin		13.59%
Sausage Egg McMuffin		13.53%
Total McMuffins		9.34%
Total All Day Breakfast Items		7.70%
Sausage McMuffin		7.30%
Total Breakfast Sandwich		5.57%
Big Mac		3.21%
McChicken		2.33%
Sau Egg Ch McGriddle		2.29%
Hashbrown		2.26%
Total Bagels		2.14%
Bac Egg Ch McGriddle		2.06%
Total McGriddles		2.02%
Bac Egg Ch Biscuit		1.85%
Cheeseburger		1.59%
Core QP and QPC		1.33%
Large Burgers		-1.28%
Total Biscuits		-1.42%
McDouble		-2.39%
Total Fries		-2.56%
Beef Category		-2.96%
Sausage Biscuit		-5.10%
Sausage Egg Biscuit		-5.24%
Hamburger		-5.91%
Chicken Category		-8.23%

i.

ii. Will help operations run better (less conflict in resources with lunch/dinner)

c. Note that we need to know the cost of items to fully claim this bc revenue
!= profit

10. We could just abandon this plan, but there could still be some benefits.

11. What further data do we need to ask the right questions and get more answers?

a. Store manager, operations manager, customer experience manager (we can't really answer their questions without more data!)

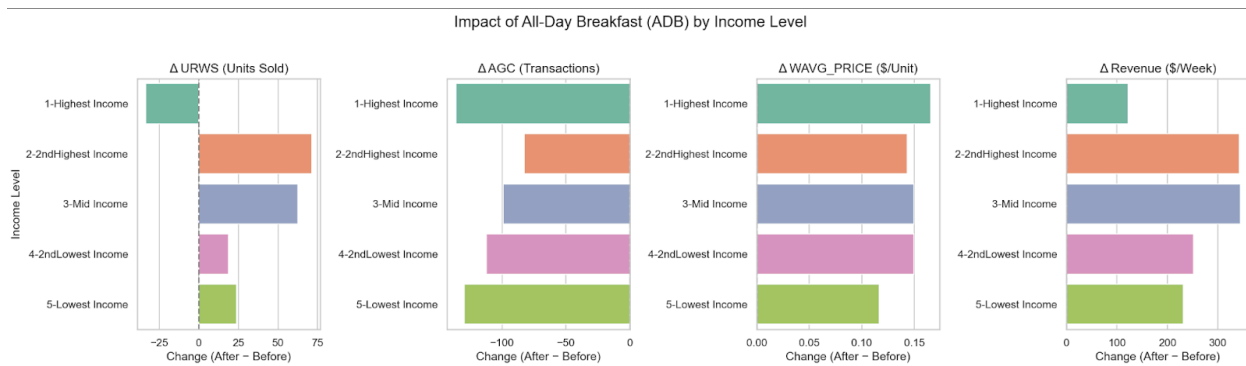
i. Transaction

ii. Customer

iii. Walk in restaurants

12. What type of analyses do we hope we could do with these potential data?

- Draw back to seasonal promotion by suggesting that if we knew order combos in the transactions perhaps we could make the claim that McMuffins and hot drinks coffee are complimentary goods (seasonally good for winter!)
- Causal inference? Testing our experiment → make causal claims about promotions
- Marketing Potential



1. Highest Income Segment – Poorest Performance

- URWS (Units Sold):** The only income group with a decline in unit sales after the ADB launch.
- AGC (Transactions):** Showed the largest decrease among all groups, indicating the biggest loss in customer traffic.
- Revenue:** Increased only slightly — the smallest revenue gain across income segments.

Interpretation:

High-income customers were the least responsive to the All-Day Breakfast initiative. They may have little interest in breakfast foods during non-morning hours or may prefer higher-end menu options. The declines in both sales volume and transactions suggest demand substitution rather than new incremental visits. Overall, ADB was least successful in high-income markets.

2. Second-Highest Income Segment – Strongest Performance

- **URWS (Units Sold):** Recorded the largest increase among all income groups.
- **AGC (Transactions):** Experienced the smallest decline, showing that customer traffic remained most stable.
- **Revenue:** Achieved one of the highest overall gains, driven by higher unit sales and modest price increases.

Interpretation:

This segment likely represents upper-middle-income professionals who value convenience and flexibility. The strong performance indicates true incremental demand rather than cannibalization. ADB was most effective in this group, demonstrating strong engagement and revenue impact.

Part 1 script:

TOM Begins

Business problem:

For the past three years, McDonald's restaurants in the Midwest region have faced a persistent customer attrition rate of about five percent annually. To address this trend, the company launched the "All Day Breakfast" promotion in October 2015. Now, the Midwest Regional Manager has initiated a strategic review of this initiative — the key question is whether the promotion actually increased total sales or merely shifted demand away from higher-margin lunch items toward lower-margin breakfast items. **In essence, the business needs to determine whether "All Day Breakfast" serves as a true growth driver or a potential source of profit dilution.**

Impact of the promotion:

Introducing the dataset:

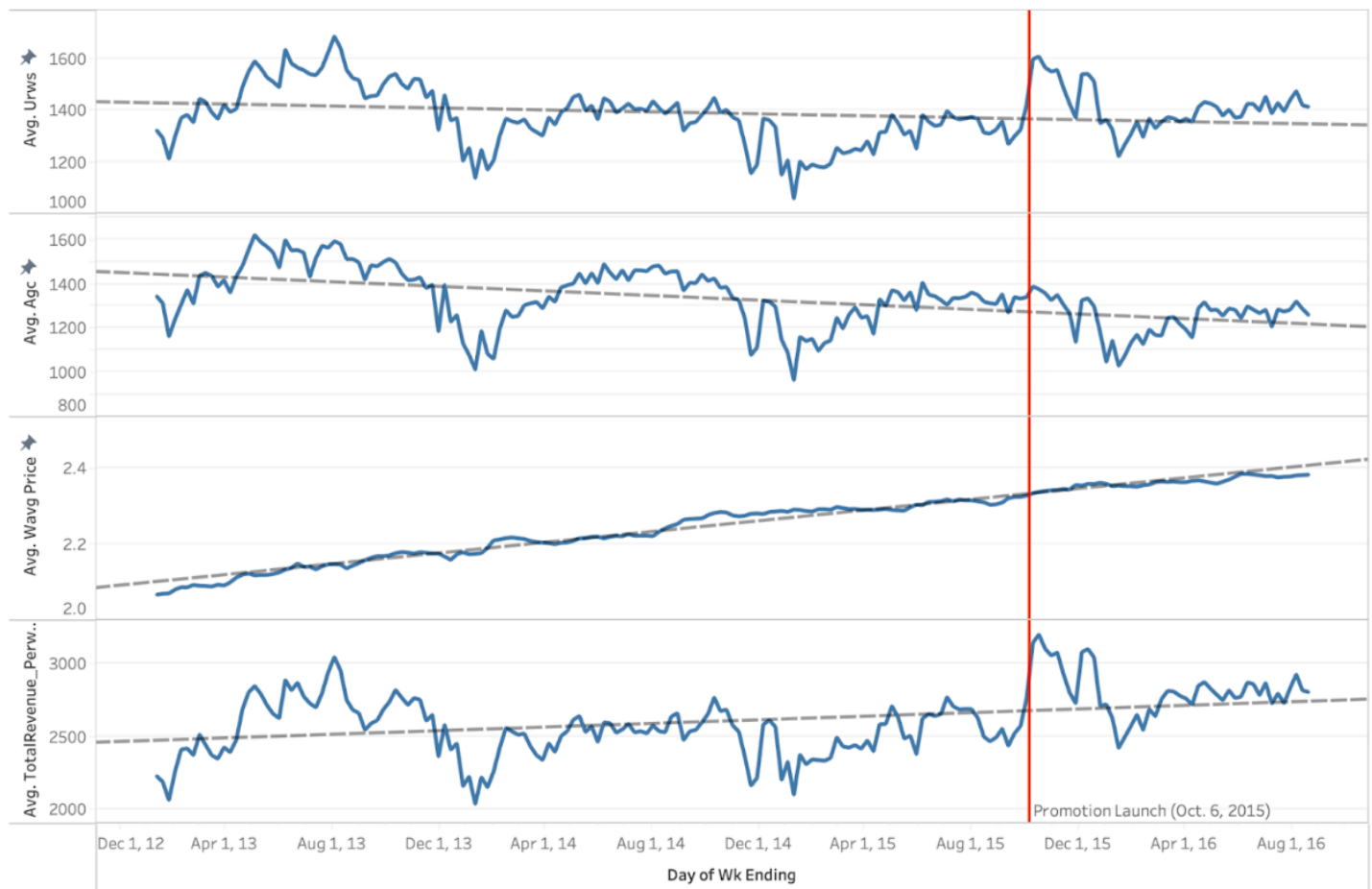
The study leverages two interconnected datasets linked by a unique restaurant identifier. The first is a static profile of 65 restaurants located across 4 counties, 29 cities, and 55 zip codes in Michigan, detailing geographic and key demographic trade area characteristics such as income, urbanity, social traits, and life stage. These variables are critical for segmenting customer bases and identifying which communities are most responsive to the All-Day Breakfast menu, with preliminary analyses indicating that life

stage and income are the most directly influential factors. The second dataset comprises detailed weekly sales records from January 2013 to August 2016, providing a timeline that captures performance before and after the promotion's launch. Key metrics such as the unit sales rate per 1000 transactions and total units sold for each item are paramount, as they directly measure product-level performance and customer adoption, isolating sales trends from overall transaction volume. The average weighted cost further enables precise revenue calculations. Together, these variables will directly quantify the promotion's impact on sales and help determine which menu items are driving value.

Yingqi BEGINS

Core claim: All Day Breakfast did not increase customer traffic. However, in the short term, the All Day Breakfast promotion did show some positive effects for unit sales and revenue.

Trends in average weekly transactions, units sold, average price, and total revenue from 2013 to 2016



We observed a noticeable increase in overall units sold right after the campaign launch — roughly a 20% spike within the first few weeks. Breakfast items, such as McMuffins, performed even better, with sales surging by nearly 40%. This indicates that the campaign successfully captured customer attention and stimulated strong demand for breakfast products during the initial period.

However, when we look beyond product-level sales, the broader picture becomes less optimistic. The average units sold per week show only a short-term boost around the campaign period, followed by a gradual decline afterward. The regression trend confirms that this upward spike was temporary rather than structural. The total number of transactions—which reflects actual customer visits—continued to decline even after the launch. This suggests that while people may have purchased more breakfast items per visit, the promotion did not attract new or returning customers on a sustained basis.

In other words, the All Day Breakfast created a short-lived sales boost, but it failed to reverse the underlying trend of customer attrition.

Why Revenue and Units Sold Are Misleading:

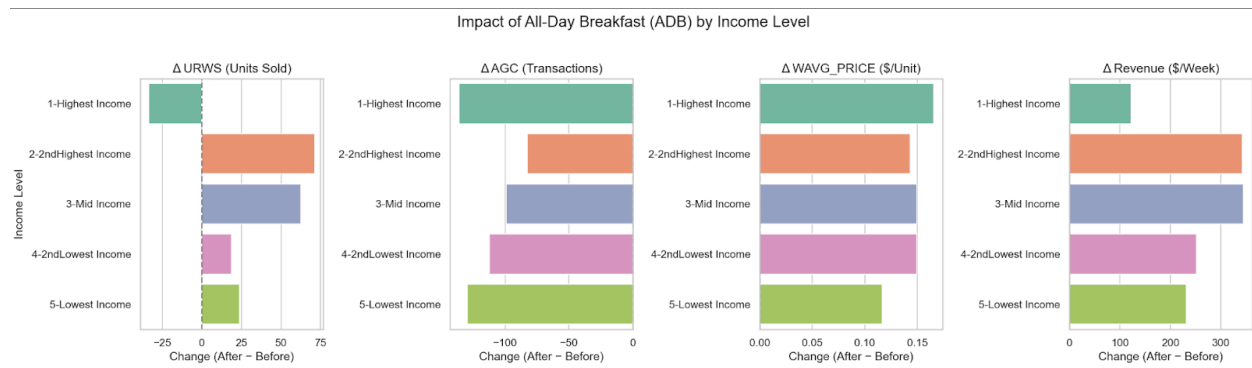
On the surface, the revenue appears to have increased after the launch of All Day Breakfast. This might seem like a sign of business improvement — but in reality, it's quite misleading.

The increase was primarily driven by the promotion itself, which encouraged existing customers to buy more breakfast items rather than bringing in new customers. When we look deeper, we see that the total number of transactions — a more accurate indicator of customer traffic — did not increase at all. In fact, it continued to decline even during the campaign period.

This means that the growth in revenue and units sold does not reflect genuine market expansion. Instead, it reflects short-term behavioral shifts within the existing customer base. Essentially, McDonald's sold more to fewer people, which is not a sustainable business outcome for a fast food company.

Therefore, revenue and unit growth gave an illusion of success, but they failed to address the core issue — the ongoing loss of customers.

Income level:



Overall, the promotion did not fundamentally change the downward trend in customer transactions. Across every income level, the average number of transactions continued to decline even after the launch of All Day Breakfast. This reinforces our earlier finding that the promotion did not bring back lost customers or attract new ones on a sustainable basis.

That said, our analysis did uncover some interesting differences across income groups. Among high-income customers, the promotion performed the worst. They were the only group that saw an actual decline in average units sold, and they also experienced the steepest drop in transaction volume. Their revenue barely increased, suggesting that this group was largely unresponsive to the All Day Breakfast offering — possibly because they tend to prefer higher-end or more premium menu items rather than breakfast foods during non-morning hours.

In contrast, the second-highest income group performed the best. They recorded the largest increase in average units sold and the smallest decline in transactions. This indicates that upper-middle-income customers — likely working professionals who value convenience and flexibility — responded positively to the extended breakfast hours. Their higher engagement led to meaningful revenue growth without significant cannibalization of other categories.

While these insights reveal behavioral differences across segments, the bigger picture remains the same: even in the best-performing groups, transaction counts still fell overall. This means that the All Day Breakfast promotion may have temporarily shifted purchase behavior, but it did not solve McDonald's core issue of declining customer traffic.

Part 2 Scripts:

What did the promotion actually do?

Now that we know the promotion didn't solve McDonald's main problem – which is declining customer traffic, let's talk about what it did do.

The data show that average transactions per week kept declining, even after the all-day breakfast launch in September 2015. However, total units sold each week started recovering back to their 2013 levels, and because prices were rising steadily, overall revenue increased slightly in the final year.

This pattern tells us that the promotion was not attracting new customers and not making people visit more often. Instead, it changed how much people bought during each visit – customers started adding breakfast items to their regular orders.

For example, someone who might have bought only chicken Mc nuggets before might now add a McMuffin. So the promotion increased units sold per transaction, but it didn't increase the number of transactions.

For the customers who increased consumption, how should we target them?

Even though the overall promotion wasn't a big success, we did see some positive responses among certain customer groups.

From the data, middle- and lower-income customers, along with some lifestyle groups like *sustaining families* and *young achievers*, were more likely to buy extra breakfast items.

These customers represent a potential growth segment.

So, instead of running the same all-day breakfast year-round, McDonald's could design targeted, seasonal versions of the promotion — for example:

A hot coffee + McMuffin combo during the winter months.

A cold drink + fries or McGriddles combo during summer.

These limited-time offers keep the idea of breakfast exciting and encourage repeat visits without the high operational costs of keeping breakfast items available all day, every day.

The key idea is: use data to re-engage the customers who responded positively, and keep their attention with variety and timing

For franchise owners and marketing managers:

Certain cities saw greater growth from the promotion than others [show graph with top 10 cities].

- These all exist in 2-4 income levels (mainly 3)
- Mainstream families with higher population of kids
- See appendix for mode by city table

What other solutions can we think of?

If McDonald's truly wants to fix customer attrition, it needs strategies that encourage people to come back more often, not just spend more once.

Here are several possible approaches:

1. Loyalty programs: Reward customers who repeatedly buy breakfast — for example, 'Buy 5 breakfasts, get 1 free.' That kind of small incentive can create habits.
2. Personalized digital offers: Use the McDonald's app to send coupons or reminders at times when customers usually *drop off*.
3. Time-of-day bundles: Offer deals that link different meals together, such as 'Buy breakfast, get 20 % off dinner,' which can drive multiple visits per day.
4. Partnership marketing: Collaborate with delivery apps or coffee brands to highlight breakfast convenience for working professionals.

These ideas all focus on building frequency and loyalty, which could be a more sustainable way to improve traffic.

What additional data do we need to solve the remaining problems

To turn the ideas mentioned above into precise recommendations, we need more granular data than what's currently in the dataset.

Such as:

1. Customer-level data: to see whether the same individuals are returning more often or just buying more each time.
2. Profit and cost information: to calculate whether increased sales actually led to higher margins after accounting for labor, equipment, and food waste.
3. Transaction data: 每一单具体点了什么, 什么时间点的, 怎么点的, 还有walk in data.

With this data, we could separate short-term curiosity from lasting behavioral change, and measure which customer segments truly respond to these campaigns

Client Questions

Regional Manager:

1. I've noticed that our revenue has increased due to higher average customer spending, but customer traffic is actually the basis for the fast food business and the focus of our team. What insights do you have regarding this?
2. We need to determine whether this promotion has made money for us. This brings up a piece of data I haven't seen in your analysis: you only showed us the revenue growth, but where is the profit data?
3. Not only that, even if the gross profit increases, for a company of our size, hidden costs such as increased system complexity and training cost could ruin our values by increasing customer waiting time. Are we making more considering these costs?
4. Should we retain the ADB initiative? If yes, should we retain it entirely or selectively, and based on what criteria should we decide whether a store keeps the ADB? If not, why?

Operations Manager:

1. I have observed an increase in breakfast product sales. The question is, to what extent has this slowed down our efficiency during the lunch peak hours for dine-in/drive-thru? How much slower has our meal preparation time become? Has our customer traffic decreased during peak hours due to longer waiting time?
2. Training a skilled employee requires cost, and a larger menu puts more pressure on the employee. Are our employees leaving more frequently due to increased menu options?
3. The same questions as above applied to our cooking devices.
4. Our revenue has increased, but when calculating net profit, we need to consider key metrics such as inventory costs and loss rates. Have you taken these into account?

Marketing Manager:

1. You have shown that the most responsive groups are middle-to-high-income professionals and families. However, understanding consumer motivation is the foundation of marketing. We must clarify the specific scenarios in which they purchase ADB. Is it a remedy for a missed breakfast, a novel afternoon tea snack, or lunch for the children? Can we outline the typical ADB consumption profiles?
2. What is the impact of the promotion on our brand perception, and customer loyalty? Could you perform a survey or use the data to show me the impacts?
3. I've noticed that ADB has successfully encouraged some existing customers to purchase more, and we want to further cultivate their loyalty. So, how can we identify these high-value customers? And how do we foster their loyalty?
4. Is the higher average order value from ADB activities sustainable? How can we prove that this is not just a passing trend among consumers?

Store Manager:

1. Since the introduction of the ADB employee turnover has increased. The time and cost required to train a new employee to proficiently handle both breakfast and lunch menus have significantly risen. When evaluating the overall benefits of this promotion, have we counted these additional labor costs?
2. During the peak lunch hours, when an ADB order is inserted, our entire kitchen production flow gets disrupted. Can we analyze whether the average serving time for standard lunch orders, excluding breakfast products, has been extended during this period? Are we sacrificing the service speed for our core lunch customers for the sake of a few breakfast orders?
3. Bigger menus directly lead to higher order error rates. My team's records show that orders combining breakfast and lunch items have a significantly higher probability of errors and customer complaints compared to regular orders. What is the actual cost of this promotional campaign in terms of food waste, customer refunds, and administrative time spent rectifying errors?

Franchise Owner:

1. Your data shows regional revenue growth, but my franchise fee is calculated based on total sales, while my profit depends on net income. Can you provide a single-store profitability model that must account for the increased labor, ingredient spoilage, and utility costs due to 24/7 breakfast equipment operation? What I need to see is whether I'm actually earning more money or merely contributing more revenue to corporate headquarters while my profit margins shrink.
2. This analysis suggests targeting specific cities. If my restaurant is located in a city not on that "high-performance" list, will the company require me to continue funding a promotion campaign that performs poorly in my market? What are the company's follow-up plans for

franchisees in underperforming areas? Are we forced to pay for the success of other regions?

3. My restaurant is located in a high-income area, yet data shows this is the worst-performing customer segment. Am I being asked to alienate my loyal lunch customers and complicate my operations for a product that doesn't appeal to my core clientele? Can I have the autonomy to opt out or adjust this promotion—such as offering only coffee and McMuffins—to better suit my local market without facing penalties?
4. This initiative requires my investment in operations and equipment. If the company's long-term strategy truly shifts toward more frequent "seasonal promotions" as suggested, how should I calculate the return on my initial investment in "All-Day Breakfast"? How will the company support us franchisees in adapting to these frequent strategic adjustments without compromising our profitability?

Customer Experience Manager:

1. Our brand is built on speed and predictability. The data I need to see is the change in the "end-to-end" average time from when customers enter the restaurant until they receive their order, especially during the peak lunch hours. Are there instances in our Drive-Thru where customers leave before placing an order due to waiting? This directly reflects how perceived wait times are damaging our core customer experience.
2. A bigger menu may lead to "decision paralysis" for customers when ordering, thereby slowing down the entire queue. Since the promotion, has there been an increase in customer questions about the menu or requests to modify orders during the ordering process? More importantly, what do our order accuracy rate and customer complaint data reveal? Are orders that mix breakfast and lunch items significantly more prone to errors compared to standard orders?
3. Beyond internal complaint data, what does social media sentiment analysis tell us? Are customers praising the flexibility of the "All-Day Breakfast," or are they complaining about slower service and incorrect orders? I need to understand the net impact of this initiative on our public brand image—are the positive reviews from a small group of breakfast enthusiasts being drowned out by negative feedback from our larger, traditional lunch customer base?
4. We are sacrificing operational simplicity for menu diversity, while the former is the cornerstone of our customer experience. Is there evidence that customers who value "diversity" are our most loyal or most profitable group? Or are we compromising the experience of our core customers—those who prioritize speed and consistency—in pursuit of a potentially less loyal new customer base?