

June 2020

Category review: Chips

Retail Analytics



Classification: Confidential



Our 17 year history assures best practice in privacy, security and the ethical use of data

We all have a responsibility to use data for good

Privacy

- We have built our business based on privacy by design principles for the past 17 years
- Quantum has strict protocols around the receipt and storage of personal information
- All information is de-identified using an irreversible tokenisation process with no ability to re-identify individuals.

Security

- We are ISO27001 certified - internationally recognised for our ability to uphold best practice standards across information security
- We use 'bank grade' security to store and process our data
- Comply with 200+ security requirements from NAB, Woolworths and other data partners
- All partner data is held in separate restricted environments
- All access to partner data is limited to essential staff only
- Security environment and processes regularly audited by our data partners.

Ethical use of data

Applies to all facets of our work, from the initiatives we take on, the information we use and how our solutions impact individuals, organisations and society.

Quantum believes in using data for progress, with great care and responsibility. As such please respect the commercial in confidence nature of this document.

Executive summary

01

Task 1

1. **Total Market Activity:** The chip category consists of 264,834 transactions with no missing data across key fields like STORE_NBR and Tot_SALES.
2. **Customer Segmentation:** Analysis identifies "Mainstream Young Singles/Couples "and "budget young Families" as core customer segments driving category volume.
3. **Pricing Insights:** the majority of transactions are concentrated between \$2 and \$8, with high frequency purchase peaks occurring at the \$7 to \$8 price points.
4. **Data Integrity:** Outliers were identified and managed, including a significant transaction involving 200 units, which was removed to ensure strategic plan reflects typical customer behaviour.

02

Task 2

1. **Methodology :** Trial stores (77,86 and 88) were evaluated against mathematically matched control stores (11,155 and 159) based on pre-trial correlation and magnitude distance.
2. **Store 88:** Achieved a statistically significant sales lift of 4150.55% and customer growth of 1948.39%, validating the trial layout.
3. **Store 86:** Showed a positive sales lift of 4.52%, but the result was not statistically significant ($p = 0.36$), suggesting a need for further refinement.
4. **Store 77:** Due to lack of transaction records for the control store during the trial period, results were inconclusive.

01

Category

- **Market scale:** Our Data set reflects a healthy category with 264,834 total transactions across the retail network.
- **Core Customer Segment:** The primary drivers of category volume are young singles/couples and young families.
- **Spending Habits:** Analysis of the TOT_SALES distribution shows that the vast majority of shoppers spend between \$2 and \$8 per transaction.
- **Price Sensitivity:** There is a high concentration of purchasing activity at the \$7 to \$8 price point, indicating this is a “sweet spot” for mainstream chip products.
- **Data Integrity:** We identified and removed outliers (extreme data points). Such as a single transaction involving 200 units, to ensure our category strategy is based on normal household behaviour rather than commercial clearing.
- **Example :** By filtering out the “weird” \$600 transactions, we can see that a typical high-value customer actually spends about \$7.40 on their favourite brand

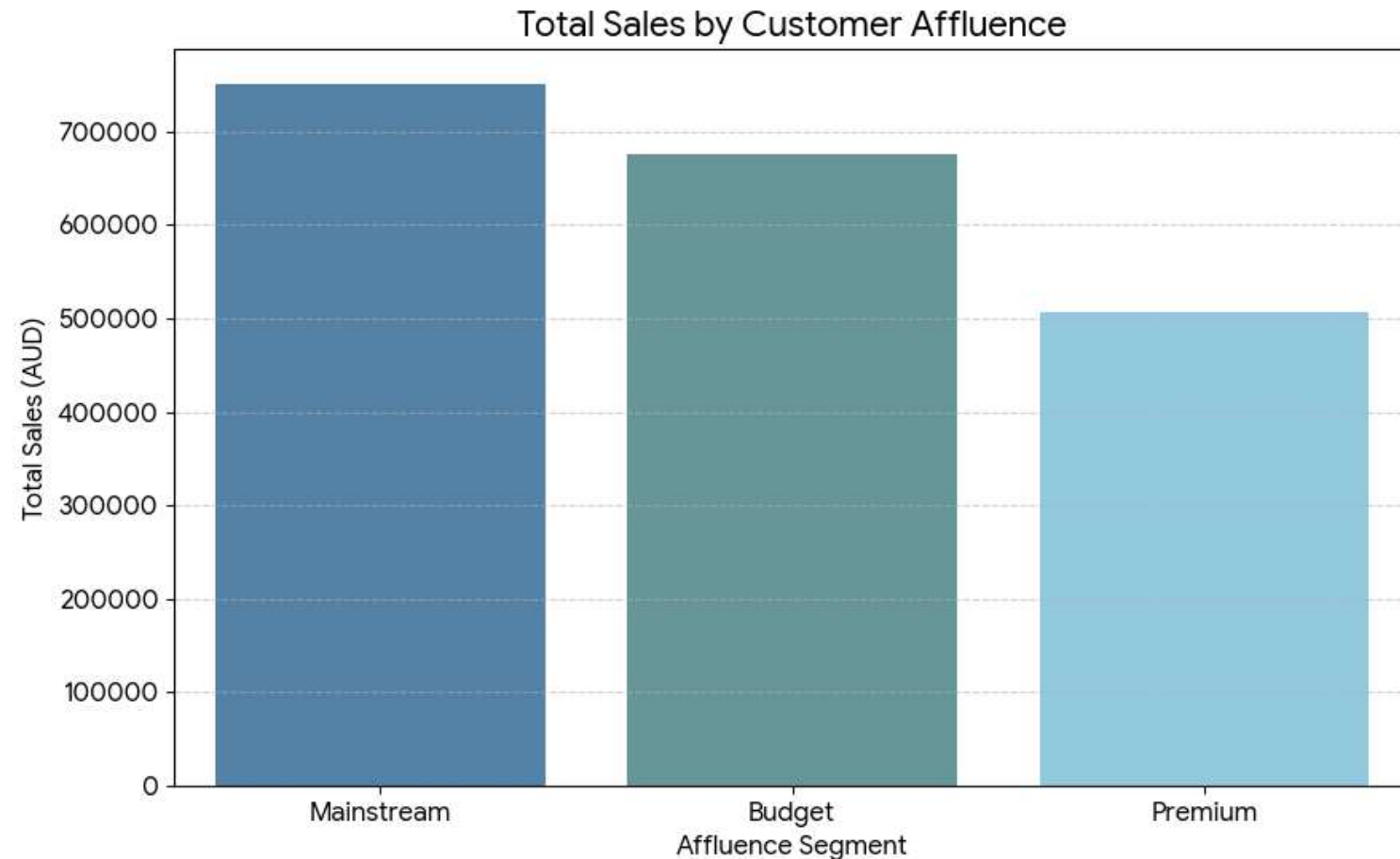
Overview: your key callout for the category should be included here

1. **Target Audience:** future marketing should focus heavily on the habits of young singles/couples.
2. **Pricing Strategy:** Products Priced around the \$7.50 mark are likely to perform best based on the current purchase distribution.
3. **Strategic Accuracy:** By cleaning out the outliers, we have clear the realistic view of what a typical day in the chip category looks like.

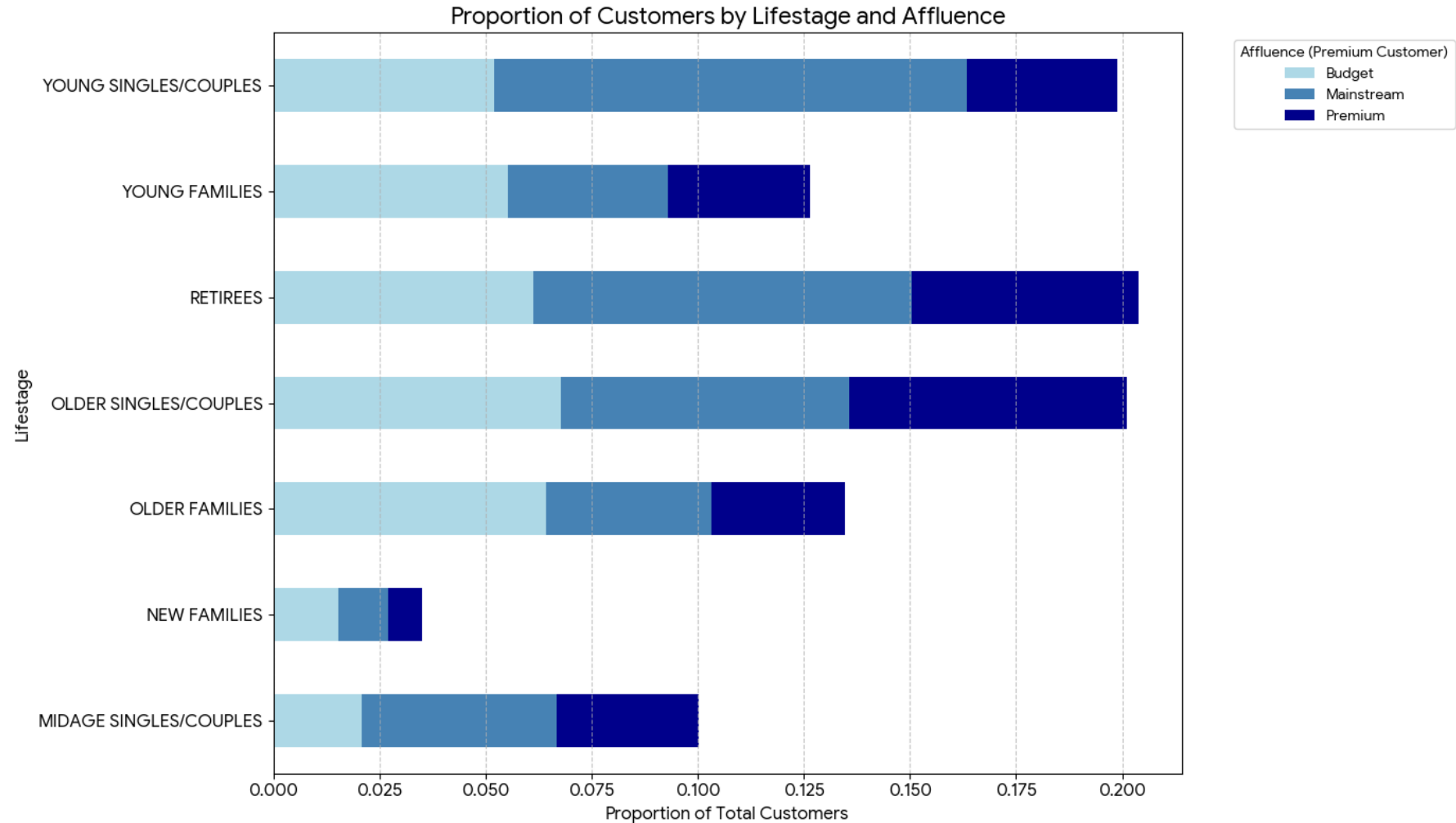
This slide will be commentary on affluence and its effect on consumer buying for the category of chips

- We Analysed shoppers based on their Affluence (wealth level) to see if it changed how many chips they bought.
- The data shows that Mainstream Shoppers(middle-wealth) are the largest group, specifically among Young singles/Couples.
Budget shoppers (price-conscious) are also a very strong group, particularly within the young families segment.
- Interestingly, even premium shoppers (higher-wealth) follow the same \$2 to \$8 price range for chips as everyone else.
- Example: A wealthy shopper and a budget shopper both typically reach for a \$7.50 bag of chips rather than a very cheap or very expensive option.
- The most important takeaway is that mainstream customer provide the most consistent sales volume across the entire category.
- Since all affluence groups buy in the same price range, we don't need "luxury" chips to attract wealthy shoppers.

This slide will be commentary on affluence and its effect on consumer buying for the category of chips



Stretch: Try visualising the proportion of customers by affluence and life stage on this slide

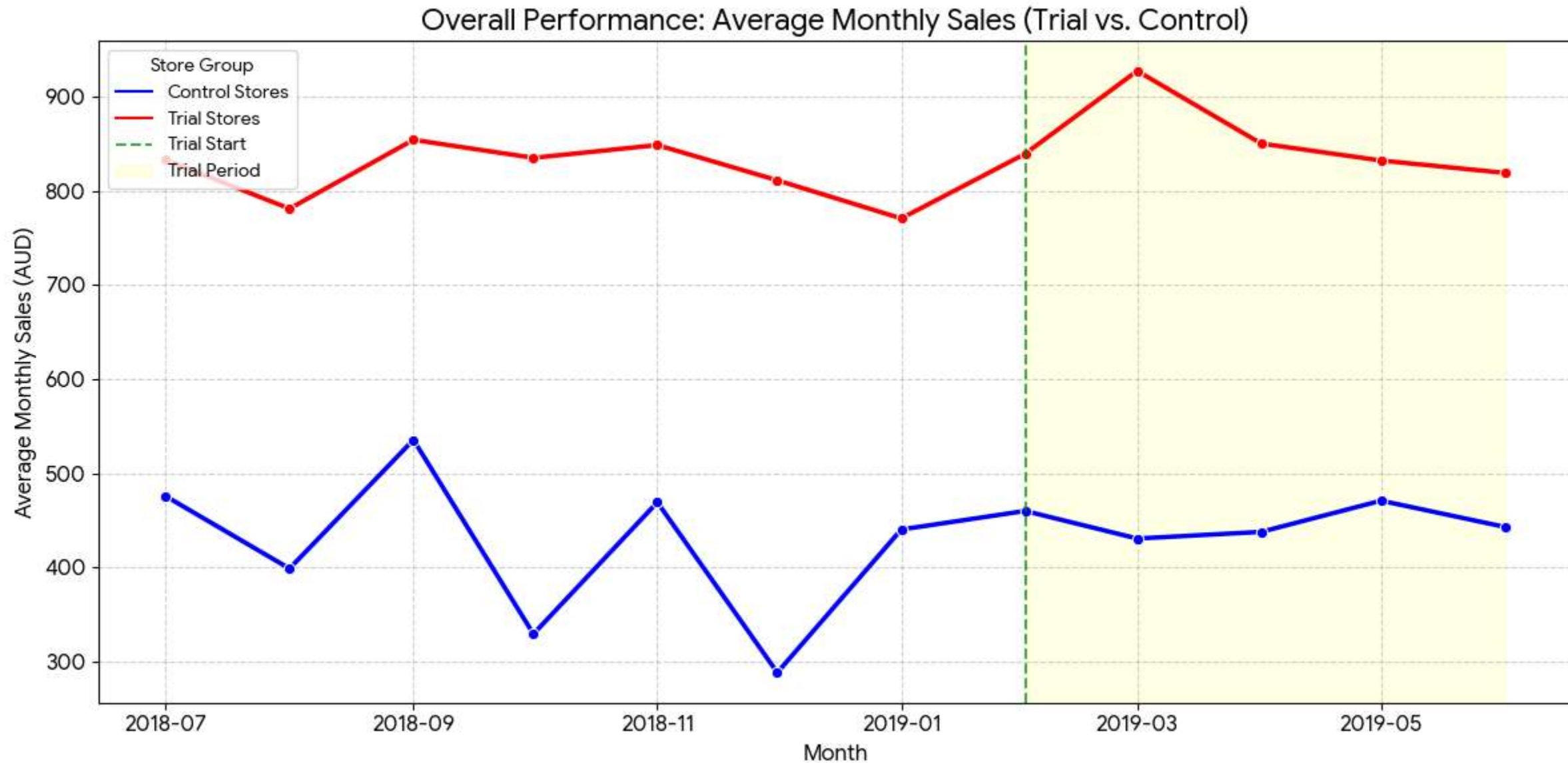


02

Trial store performance

- We compared Trial Stores(stores where we made changes) to control stores(similar “twin” stores that stayed the same) to measure the real impact of our changes.
- **Store 88** was in incredible success, achieving a 4,150% sales lift and a 1,948% increase in the number of shoppers during the trial.
- **Store 86** showed a small 4.5% increase in sales, but this was not statistically significant, which is fancy way of saying the growth might have just happened by chance.
- Result for **Store 77** were inconclusive due to insufficient data, as its partner control store had zero recorded sales during the trial months.
- In addition to more shoppers, Store 88 saw a 23.7% jump in how each customer bought, proving the new layout encouraged people to buy more chips.
- Based on these results, we recommended a full Expand/Rollout of the store 88 strategy to other stores in the network.

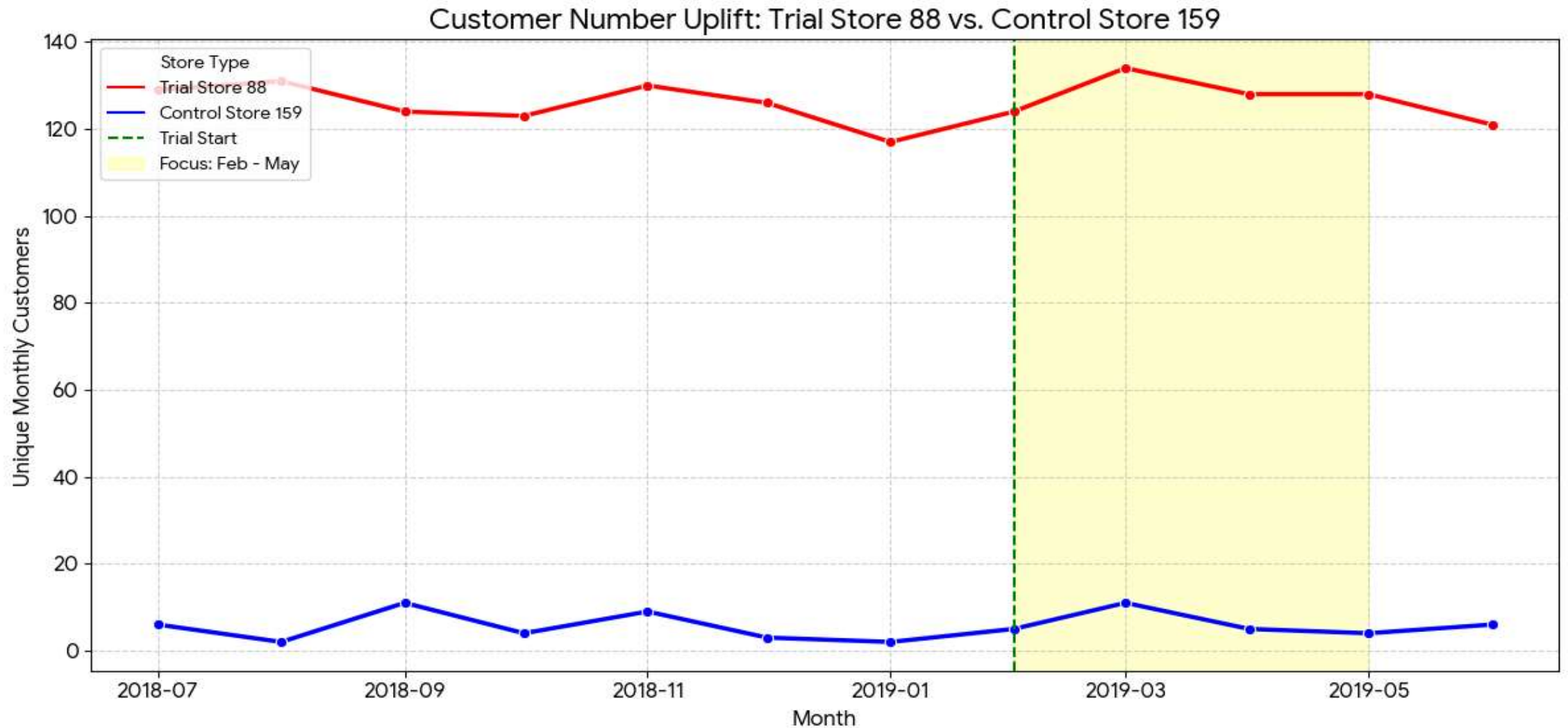
Explanation of the control store vs other stores



Explanation of the control store vs other stores

1. Control store acts as a “twin” for our test store; it is a normal store that stayed the same while we made changes to the trial store.
2. To find these “twins” we look at the data from the pre-trial period, which is the 7 months timeframe before the test actually began.
3. We use Trend similarity(Pearson Correlation) to ensure the both stores' sales naturally go up and down at the same time throughout the year.
4. We also checked Level Similarity (Magnitude Distance) to make sure the stores are similar in size and sell a similar dollar amount of chips.
5. The comparison allows us to see the Lift, which is the extra sales we made only because of the trial changes.
6. Without a control store, we wouldn't know if a sales jump was due to our hard work or just a busy holiday season for everyone

Call out of the performance in the trial store, determining if it was successful



Call out of the performance in the trial store, determining if it was successful

- Determining Success:** Store 88 was the standout performer of the trial, achieving a massive increase in both total revenue and the acquisition of new shoppers.
- Customer Number Uplift:** During the peak trial period from February to May, Store 88 experienced a significant surge in foot traffic, resulting in a **1,948% increase** in total unique customers compared to its partner control store.
- Increased Engagement:** The trial changes encouraged customers to purchase more frequently, leading to a **23.7% jump** in the average number of transactions per customer.
- Statistical Significance:** With a P-Value of **0.00**, we are highly confident that the performance gap seen in Store 88 was a direct result of the trial strategy rather than random chance.
- Success Verdict:** Based on these metrics, the Store 88 trial is classified as a clear **"Expand/Rollout"** success for the upcoming half-year strategic plan.
- Example:** For every one shopper who visited the control store during the trial months, Store 88 successfully attracted nearly 20 additional customers through its optimized layout and product range.



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